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RUANDA-URUNDI

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Translated from the French
by
Goldie Blankoff-Scarr

MAPS

Natural Regions.

Coffee Pulping Centers.

Concentration of Native Farming Communities.

INEAC Stations, Local Adaptation Stations
and Diffusion Centers.

Distribution of Large Cattle.

Veterinary Service.

Dipping Tanks.

NOTES

1) The spellings "Ruanda" and "Urundi" have been kept when referring to the native countries and the residences, although the correct spelling would be "Rwanda" and "Burundi";

2) The official spelling of the names of territorial seats has been maintained; however, since the present document has been written, the territorial organization of the Trusteeship Territory has been greatly modified in order to meet the needs involved in the evolution brought about by its imminent accession to independence.

In Burundi 10 territories are replaced by 18 provinces, whereas in Rwanda prefectures replace the former "chefferies";

3) In the native language the inhabitants of Ruanda and of Urundi are designated by the words Munyarwanda (plural: Banyarwanda) and Murundi (plural: Barundi). In conformity with the usage adopted in specialized works, we shall write a Rwanda, some Rwanda, a Rundi, some Rundi;

4) Likewise, the representatives of the country's three races are called, in the native language, Mututsi (plural: Batutsi), Muhutu (plural: Bahutu), Mutwa (plural: Batwa). Only the roots will be used here, for example: a Tutsi, some Tutsi, a Hutu, some Hutu, a Twa, some Twa;

5) The native languages are called Kinyarwanda and Kirundi. Here again, only the roots will be written: Rwanda or the Rwanda language and, likewise, Swahili and not Kiswahili.

6) In general, the statistics go as far as December 31, 1958.

Moreover, the territory of Gitarama was created on January 1, 1959. Before this date, it was an integral part of the Nyanza territory.

As a result, the statistical tables mention only the Nyanza territory. Therefore, the data included in this column concern the present territories of Nyanza and Gitarama.

All the maps, on the other hand, have been brought up to date and indicate the present-day borders of both territories.

7) The tonnage given in various tables and diagrams is indicated in short tons.

In some instances, the liquid measure has been indicated in cubic feet, this being a standard measure identical in all Anglo-Saxon countries.

CHAPTER I

GENERAL REMARKS

SUMMARY

Traditional Rural Economy and Its Evolution.

Nutrition Problems.

Native Income.

Labor and Salaries.

General Characteristics of the Present-Day Economy.

TRADITIONAL RURAL ECONOMY AND ITS EVOLUTION (1)

1. — The economic structure of the peasant societies of Ruanda-Urundi is closely linked to their traditional social organization which, founded on the respect for power and on violence toward isolated individuals, was balanced by a set of situations in which dependence was compensated for by protection. Two major handicaps existed, within imposed natural limits: not very developed technology and very variable climatic conditions.

2. — **The basic social facts:** respect for vitality, scorn of death and its annihilation had, as an immediate corollary, the need for integration into a compact family structure and, on a higher level, into a vaster and more powerful protective framework. These facts explain the strong family spirit and the importance of the contract for leasing cattle. The patriarchal family, integrated into the political framework of the nation, thus formed the basic economic unit.

3. — Exchanges with the outside world and surpluses were extremely limited. Outside the interregional relations dominated by large-scale barter, the economic organization was of the manorial type, in an almost closed circuit, producing everything necessary, clothing as well as food and shelter.

4. — The peasant's two main tools were the hoe and the pruning-knife. With only these instruments, how could he cope with the heavy work which recurs in the cycle of seasons; how could he prepare for the unexpected, avoid waste in the consumption of perishable products, cope with unavoidable accidents (fires, the scourge of insects, disease)? Only one solution was possible: work groups were formed. In fact, the association of "those who extinguished the blaze in case of fire" was at the same time a mutual aid community, a mutual security group and a consumers' cooperative. Hard work is done in groups; expensive tools and equipment are borrowed and lent; help is mutually offered when huts or crops catch fire; available resources are pooled when a dowry must be assembled or a heavy fine paid; invitations are extended when it is necessary to divide up perishable products which one has rarely but in large quantities at a time (beer, meat of cows that die a natural death).

5. — Unfortunately, the peasant was less well-armed against the irregularity of rainfall and unpredictability of natural changes. He tried

to alleviate their disastrous effects by securing plots of land at different altitudes, on different slopes, by using three annual planting seasons (two on hills, one in swamps), by multiplying the sowing, by planting as many different crops as possible (on the fertile lands around huts, one immediately notices the great variety of plants cultivated, sometimes as many as seven or eight at a time, from the banana tree to the sweet potato, including colocasia, squash, sorghum and maize). Unfortunately, in the event of generalized scourges, such as widespread and repeated drought (the terrible famines of recent history are almost all the result of successive shortages having a cumulative effect) neither mutual aid nor the variety of crops made it possible to avoid the catastrophe. The accumulation, during a normal period, of products which would have been available during a scarcity was made difficult by the absence of an organized market; this was, moreover, not very desirable since the man whose harvest was too ample attracted self-seekers and aroused the greed of the powerful; and finally, the peasant who was bold enough to deviate from the norms set by custom by flaunting his riches impertinently, ran the serious risk of being accused of witchcraft, robbed of his goods and even of his life.

6. — The highest ambition of the farmer was, therefore, to have many children and many cows rather than a plentiful harvest. Large herds assured the stock-breeder of a choice clientele, dependable labor, source of wealth and influence. The existence of many children made it possible for the family to multiply its alliances through carefully selected unions; the marriage of daughters brought new cows into the herd. Numerous off-spring provided the Hutu with the assurance that the cult of the ancestors would be perpetuated and helped him to find a powerful protector and thus to obtain the cow which would rank him among the influential men.

7. — Thus, economic promotion, in a society as rigid as that of former Ruanda-Urundi, could be carried on only through social promotion. Material well-being went hand-in-hand with an influential position in society, but it was never its cause.

8. — Present-day evolution of the subsistence economy is dominated by the localized impact of the monetary economy and by a series of changes indicating a tendency toward integration into the framework of a market economy.

9. — The influence of the monetary economy is seen in the primordial role played by the trade and cultivation of coffee in the money income. During the annual coffee harvest, one may observe a phenomenon of seasonal inflation due to the considerable taking in of money within a short period of time. The price of agricultural products and of barter articles jumps suddenly. During the remainder of the year, monetary signs are often lacking and one may observe deflationary movements due to the progressive resorption of cash which has repercussions

(1) This section is the summary of a study by Ph. Leurquin, IRSAC researcher, entitled: "Les grands traits de l'économie de subsistance" and edited on May 7, 1957 as a contribution to the work of the CCTA Conference in Tananarive (October 1957) on the promotion of rural welfare.

on the general level of prices. These are, therefore, just as irregular as deliveries to the market; the latter is not the normal channel for the disposal of goods, but rather the place where one is forced to "buy" the currency which one needs. It is not surprising that, since then, the majority of families continues to grow its own food products rather than become exposed to the ups and downs of an erratic market which they still do not understand. The obvious result of this situation is the absence of regional specialization or its elementary character whereas the numerous microclimates seem to offer the ideal geographic conditions for such a division of labor.

10. — The system thus continues to function as it always has, the main transformation being the **appearance of new species** or unknown varieties. European action has made it possible for the traditional organization to function with fewer shocks because of the diffusion of risks which are spread over more types of plants, but the closed economy for food crops remains predominant.

11. — The money standard is still too uncertain and many peasants find handling it too complex. And, on the other hand, since their needs remain limited, barter remains and sometimes even becomes more widespread. Its justification is found in its security: each party is sure to obtain exactly what he needs. It is therefore not surprising that it is being extended to products such as imported salt or coffee. Meat, salt and DDT are sold at the beginning of the year, paid for in July by such and such a volume of coffee: this type of trading has become one of the classic ways in which swindlers exploit old or ignorant people.

12. — The main changes concern the transformation of the situation of men, the modification of their customary relations, the increase in the mobility of production factors and of specialization and the role of capital.

13. — Although the woman has remained the pillar of the subsistence economy, **the life of the men has changed completely**. The role of the head of the family has become less important: it is the individual and no longer the family that is henceforth responsible for the payment of taxes and the carrying out of work for the general good. Industrial farming is within his scope; he holds the purse strings; therefore, he can, if he so desires, do without his wife's provisions and wander aimlessly or pay some of his traditional obligations.

14. — The two major elements in the agrarian economy, land and live-stock, which were formerly practically intransmissible, become objects of transaction. **Live-stock trade is developing**; cattle are sold in order to purchase a small truck or a commercial plot of land which will make a new start possible. Not only is the rental of land or of pasture becoming more common, but entire properties are being sold.

15. — **Specialization** is appearing where there are markets; this is the case for the development of market gardening and the sale of wood for heating along the roads to Usumbura, of manioc near certain large flour mills and of food crops near mines.

16. — Despite the diffusion of money, **capital remains rare**. This is a result of the pressing nature of needs which quickly swallow up the available margin of security. A proof of this situation is the appearance of usury. Another manifestation of the weakness of cash is the tontine, frequently practiced among the salaried workers in the areas near cities, which makes it possible for each one of the contributors to have at his disposal, from time to time, a sum large enough to buy expensive goods.

17. — The study of the family budgets of well-to-do social classes shows the importance that the **domestic production of food crops** continues to have as a source of supply for the population. Every family continues to produce its own basic food. Among the rich households, one may observe the appropriation of supplementary crop lands and the increase in the number of workers which relieves the wife of a portion of the labor. The portion of food bought or imported (meat, palm oil, rice, European beer, tea, sugar, bread, powdered milk) increases as one goes from the budgets of the poorest to those of the richest.

18. — In conclusion, the rural economy of Ruanda-Urundi is characterized by the classic dichotomy between the monetary sector and the subsistence sector. Although certain traits of the way of life seem to remain fundamentally unchanged, it seems that the play of monetary forces is tending more and more to an integration of the economy, with its logical consequence, the mobility of the factors of production, basic demand of progress.

NUTRITION PROBLEMS (1)

19. — When Belgium received the League of Nations mandate for the administration of Ruanda-Urundi, the government found itself faced with the particularly pressing problem of undernourishment of a people who were prey to periodic scarcities and famines, the effects of which were especially devastating.

20. — One of the main objectives of civilizing activity is the education of the natives in order to improve their farming methods and to introduce non-seasonal crops, such as the sweet potato, the potato, and manioc which have now become basic food crops; moreover, the storage

(1) J. Close: "Enquête alimentaire au Ruanda-Urundi". "Académie Royale des Sciences Coloniales, mémoires", t. II, fasc. 4, Brussels, 1955.

and rational conditioning of seed were organized in order to alleviate the often disastrous effects of certain shortages.

21. — Little by little, the population grew accustomed to a more balanced diet and food interdicts have been greatly reduced. In former times, the cow was eaten only during old age or when suffering from some disease; fish was practically unknown; poultry was used especially for soothsaying and there was often a taboo connected with the eating of small cattle.

22. — In a country in which a subsistence economy still predominates, food supplies naturally depend on local resources for the majority of inhabitants. These supplies vary considerably with the natural regions: although they are generally adequate in quantity and quality in the hill masses situated on both sides of the Congo-Nile ridge where the population is dense and climatic conditions favorable, they are definitely inadequate in the less favorable regions of the east which have very irregular rainfall.

23. — The intensity or regularity of rainfall marks the seasons and has a direct influence on the harvests, the quality of which is also affected by the damage brought on by insects and diseases.

24. — The basic carbohydrate foods are mainly sweet potatoes, beans and manioc which are eaten the year round; there are also other intermittent or complementary foods such as maize, peas, sorghum, potatoes yard-grass (eleusine) and colocasia. Among the vegetables, one must mention mainly string beans, manioc or bean leaves, squash, certain varieties of cabbage, colocasia leaves, a few mushrooms and many wild, herbaceous plants. The banana is the most common fruit for the natives; citrus fruits are not very widespread and are eaten almost exclusively by the wealthy classes. Fish is appreciated only by those living on the shores of Lakes Tanganyika and Kivu and the interior lakes where the Administration has introduced telapia.

25. — Large cattle, outward sign of wealth and social prestige, have only relative economic value, despite their numerical importance; the dairy cow generally produces only from one to two quarts of milk per day and the weight of a full-grown animal varies from 550 to 650 pounds. These cattle, accustomed to the way of life of a nomadic people and to severe variations in climate, are particularly hardy during the long periods of drought, but the mediocrity of pasture lands, the lack of fodder crops and the endemic diseases to which they are subject reduce their commercial value and make meat a luxury food for those with small incomes. For a long time, the consumption of small cattle was forbidden, but little by little, interdictions are becoming weaker; as for the consumption of pork, poultry and eggs, formerly taboo, it is spreading throughout all the social classes. In the predominantly pastoral regions, curdled or fresh milk is enjoyed especially by the Tutsi and their servants, although a large part of the milk production is used for the manufacture of butter.

26. — Imported palm oil and cottonseed oil coming from Usumbura are, along with butter, the main source of lipides. Alcoholic beverages are highly appreciated and banana or sorghum beer are often enjoyed; on the other hand, European manufactured beer is becoming more and more popular. Various pimentos are widely used; mineral salts come mainly from kitchen salt.

27. — Although the above considerations are true for the natives living in rural areas, they become less and less so for those living in centers and for those working in industrial establishments where an ever-growing portion of income is spent on the purchase of meat or fish and of certain imported foods such as bread, rice, etc.

28. — In conclusion, one may still note in Ruanda-Urundi, as in all under-developed regions, definite lacks in animal proteins, vitamins and lipides. But, one should not exaggerate the seriousness of these deficiencies, certain vegetables making up for the meat deficiencies because of their high content of amine acids: to realize this, it is enough to observe many inhabitants of the mountainous regions who have well-developed muscles and a real aptitude for prolonged efforts.

29. — The action undertaken by the Administration in order to remedy these deficiencies may be summed up as follows:

- Improvement of cattle breeds;
- Increase in the supply of fish, stocking of lakes and ponds, development of fishing;
- Inclusion of a food ration in the worker's salary; the minimal composition of this ration is determined by ordinance and varies according to the type of work involved.

NATIVE INCOME

30. — According to an inquiry made by Ph. Leurquin in the Astrida territory (1), the annual monetary income in a typical mountain subchieftaincy would be approximately 1,738 francs per family, or 2,674 francs per tax-payer, or 397 francs per individual. The major part of this income comes from coffee and salaries, the whole of which represents more than eight-tenths of monetary income.

31. — The distribution of monetary expenditures shows that the strategic items are clothing with 33.4 %, that is one-third of the gross total; taxes, 19.1 % of the gross total; food, 18.4 %, and cattle transactions, 11.3 % of the gross total. These four items alone take up 80 % of the total transactions. A large portion of the monetary income,

(1) "La Vie économique du paysan Rwanda. L'exemple de Karama, Nyaruguru", *Jeune*, January 1957.

that is 45.3 %, is devoted to the purchase of imported goods because of the pressing nature of certain needs and the absence of any advanced industrialization in the country itself.

32. — A subsistence economy is based primarily on agriculture. The average plot worked in Karama is about 3.26 acres per tax payer, 2.13 acres per family and 0.40 acre per individual. Farming here is closer to market gardening than to western style farming; it is, however, from this small plot that the peasant obtains his subsistence crops. If one adds to it meat and milk, dwellings and the articles made at home, in Karama, one obtains a subsistence income of 3,418 francs per family or 5,250 francs per tax payer, or 781 francs per inhabitant, which brings the total income to 5,156 francs per family, or 7,933 francs per tax payer, or 1,178 francs per individual.

33. — Thus, the portion of monetary income in the total income in Karama is about 33.7 %, that is one-third of the income; the important items of the total income are mostly food products (55.6 %), the products of stock-breeding (22.9 %), coffee (8.2 %), salaries (7.79 %); the main items on which money is spent are food (65.5 %), clothing (13 %), taxes (7.4 %), housing (2.4 %), household items (1.7 %), equipment (2.9 %). On observing the distribution of the various items of the total expenditure, one figure is outstanding: 65 % is spent for food, that is, two-thirds of the income.

34. — An inventory of the personal assets of seven hundred ninety four families, drawn up by the same researcher in a sub-chieftaincy in Urundi (four hundred and twenty families) and a sub-chieftaincy in Ruanda (three hundred seventy-four families), has, moreover, produced the following results (1). The value of personal assets, per enclosure, was 1,756 francs in Ruanda and 1,450.80 in Urundi. Purchases during the year amounted to 987.20 francs per tax payer. The repartition of purchases into the categories eloquently shows the predominant part played by clothing which absorbs half of the total expenditure and the small part played by traditional type objects which, making up half of the objects in the inventory, represent only one fourth of the total value.

35. — A study of the origin of purchases points to the primordial importance of the nearest trade and commercial centers. There are, however, two important foreign sources of supply: Uganda for the sub-chieftaincy of Ruanda and Usumbura for the sub-chieftaincy of Urundi. In the former, 10 % of the tables, chairs and cases come from Uganda; in the latter, one-third of the imported kitchen utensils, half of the tables, chairs and cases come from Usumbura. A notable fact is that Uganda has real importance only for the poor Rwanda who carries away

(1) "L'Actif mobilier des habitants des sous-chefferies Kigoma (Ruanda) et Nyangwa (Urundi)". "Bulletin de l'Institut de Recherches Economiques et Sociales de l'Université de Louvain", 1957, n° 2.

his furniture on his head, whereas Usumbura is both a source of quality goods for the rich and of income, thus of purchases, for the poor.

36. — Nine-tenths of the inhabitants of the two above-mentioned sub-chieftaincies continue to work the land. Their dwelling lasts but a few years, its living area is reduced to a minimum and rarely covers more than 24 square yards; animals often share the same shelter. Traditional objects make up the greatest part of personal possessions. Imported goods have become indispensable, especially clothing and imported hoes; most of these objects are, however, luxury substitutes compared with the local objects; they are much more expensive and often serve the same purpose; their share in the value estimate does not correspond to their real importance.

37. — A minority monopolizes a large part of the total wealth; the rich spend money on less necessary articles, especially on furniture and clothing. The rich man travels more and buys supplies coming from farther away. The social hierarchy seems to correspond to the hierarchy of wealth; a marked inequality exists within scarcity itself. A few individuals, through their efforts and initiative, have been able to break the ties with the soil and begin to break out of the circle of poverty. Sometimes at the cost of great effort, they acquire a minimum of equipment or a professional qualification and, little by little, manage to attain a more decent standard of living, as the inhibiting influence of feudalism wanes.

38. — Alongside of these figures and conclusions which characterize the slenderness of income in the rural areas, one may place the results of a socio-economic study made in the urban centers of Usumbura by L. Baeck, another IRSAC researcher (1). This study, which dealt with four hundred and sixty-seven families in the various housing developments, points out that monthly income is less than 1,000 francs for 25.5 % of the population, between 1,000 and 2,000 francs for 42.2 %, between 2,000 and 3,000 francs for 16.1 %, and more than 3,000 francs for the rest. For a correct evaluation, it is important to note that the unskilled laborers who work in Usumbura generally come from mountain chieftaincies and thus do not live in the centers; the figures noted in Usumbura thus apply in particular to workers of a relatively high employment level. The study has, moreover, proven that the inhabitants generally have large supplementary resources (72 % for the incomes less than 1,000 francs, 57 % for those between 1,000 and 2,000 francs, 43 % for those between 2,000 and 3,000 francs, and more than 30 % for the other categories, respectively). The distribution of expenditures confirms the accuracy of the law of Engels: whereas 70 to 90 % of expenditures are devoted to food for those in the lowest income bracket, this per-

(1) "Etude socio-économique du Centre extra-coutumier d'Usumbura". "Académie Royale des Sciences Coloniales", Brussels, 1956.

centage decreases to 35 % as income increases. Clothing absorbs 10 to 25 % of expenditures, leisure and beverages 15 to 35 %.

39. — The aim of the studies outlined above is to determine native income in certain regions and in a certain number of sample families.

If, on the other hand, one is interested in the global elements of the national income, on the scale of Ruanda-Urundi, the following figures may be noted and considered as partial or approximative estimates :

— 1958 income from productive farming	731,000,000 fr.
— 1958 income from stock-breeding	120,000,000 "
— 1958 income from fishing	30,000,000 "
— 1958 income from paid labor	800,000,000 "

Income from commercialized food crops (difficult to estimate) and that from trade, handicrafts and industry, added to these figures, would give the global native monetary income. It is thus within reason to set this at about 2 billion francs. This would represent, for about a million families, some 2,000 francs per year per family, figure very close to those calculated by Ph. Leurquin.

LABOR AND SALARIES

40. — If one has thoroughly understood what has been said concerning the income and the secondary nature of the monetary economy for the natives of the rural regions, one will be able to understand better what salaried work has meant for decades and continues to mean, even today, to the mass of workers. A salary was not at all considered as remuneration for a regular activity, as a livelihood, but rather as a source of fresh money destined for certain indispensable purchases or the payment of taxes. The native felt no need to have money permanently; from time to time, he sought to gather a specific sum for a definite use.

Still today, one may divide the one hundred and seven thousand workers of the Territory into two main categories : on the one hand, the proletarianized worker, torn from his tribal roots, living only from his work, residing for the most part in the native communities or the workers' housing developments of the mining centers and, on the other hand, the peasant laborer, the occasional plantation worker, the roadman's or foreman's often undependable day worker.

41. — Two classes of salaries correspond, in fact, to these two social categories : on the one hand, the remuneration — which one could call integral, of the proletarianized workers; on the other, the still incomplete pay of the peasant workers. For a long time, the former have been receiving, besides their salary in the strict sense of the term, a complete ration (from some employers and in all the mining centers even a family ration) and housing. The others, who continued to benefit from

a subsistence income, received only a salary until 1955; since then, it has become compulsory to pay these workers a housing indemnity and a reduced ration, the minimum of which increases each year, arriving rapidly at the complete ration.

42. — Another important distinction should be made between the salaries of the workers of Usumbura and those of the workers in the other territories. Usumbura is, in fact, the only truly urban center in the Territory. It is the place "par excellence" where the remnants of the subsistence economy fade and disappear, giving way to a specifically monetary economy. It is also the place where a great number of organized and prosperous commercial and industrial establishments are concentrated. These elements, added to the relative high cost of living in the native districts, explain the essential stratification which has prevailed until now in the salaries of the workers and according to which two minimal salaries have been fixed : that of Usumbura and that of the remainder of the country, the latter being much lower than the former.

43. — The minimum daily salary (1) which, in 1949, was not more than 2 francs, has gone :

— In Usumbura : to 5 francs in 1950, 7 francs in 1951, 8 francs in 1952, 8.90 francs on January 1, 1953, 9.40 francs on July 1, 1953, and has finally been raised for ordinary workers to 12.50 francs on February 1, 1959;

— Elsewhere : to 3.50 francs in 1950, 4.50 francs in 1951, 5 francs on August 1, 1951, 5.70 francs in 1952, 6.40 francs on January 1, 1953, 6.70 francs on July 1, 1953, to 8.50 francs on February 1, 1959.

44. — In eight years, the minimum salary has thus been raised 625 % of its rate in 1949 in Usumbura and 425 % elsewhere. Besides a constant, though irregular rising, one notes to what extent the two types of salaries have become differentiated; how much the salaries of Usumbura and of the interior have diverged manifesting, moreover, a patent economic truth and more ready money with city employers.

45. — The real growth in buying power which these increases mean stands out clearly if one compares the theoretical minimum salaries to the evolution of legal salaries, determined by an estimate of the price of a list of objects which has remained practically unchanged. The theoretical minimum has gone from 6.80 francs to 12.22 francs for Usumbura between 1949 and 1959, that is from the 100 to the 179 index, whereas the legal minimum went from 2 francs to 12.50 francs, that is from the 100 to the 625 index. In the interior, the theoretical minimum was 9.30 francs in 1959 as compared with 6 francs in 1949, that is 155 % of the original rate, whereas the legal minimum was increased by 425 %.

(1) Until 1957, a worker's salary was made up of the salary, the ration, housing, household equipment and bedding. The figures cited under the heading of "minimum salary" concern only the first of these elements and therefore should not be confused with total remuneration.

46. — The legal average weekly ration went from some 20 francs in 1949 to some 59 francs on January 1, 1959, that is to 295 % of its rate in 1949. This evolution in the ration has naturally followed the fluctuations in the cost of native foods. It should be noted, however, that the minimal composition of the ration was modified, in 1955, in order to assure the native a more complete assortment of nutritive foods, especially vitamins.

47. — Since July 1, 1955, the mass of peasant workers receive a reduced ration which today is worth 40 % of the complete ration, that is, 3.50 francs per day.

48. — The remitting of the ration or the food allowance is not compulsory when the daily salary reaches a minimum of 29 francs in the Usumbura territory and 21, 22, or 23 francs elsewhere. This minimum is called the global salary. When this possibility is not used and the employer prefers to pay the salary, ration and housing separately, with the legal and administrative obligations which this involves, the total daily remuneration is 26 francs in Usumbura, 17 to 18 francs for the other territories and 12.60 francs for agricultural workers.

49. — In Usumbura, payment of the "global salary" is spreading. This is obviously the solution of the future, for the system in which the remuneration is broken down into various component parts no longer corresponds to the needs of the workers nor to those of the practical organization of commercial and industrial establishments.

Economically active population (1958).

Main branches of economic activity	Em- ployers	Persons in their own employ	Salaried workers	Non- remuner- ated family workers	Totals
Agriculture, forestry, hunting and fishing	1,504	1,486	24,157	304	27,451
Extractive industries	88	14	11,368	2	11,472
Manufacturing industries	201	2,655	6,126	661	9,643
Construction	134	187	13,128	1	13,450
Electricity, gas, water and sanitary services	30	5	3,726	—	3,761
Trade	2,611	2,799	12,153	820	18,383
Transportation, storage and communications	161	210	12,199	2	12,572
Services	152	173	22,904	—	23,229
Activities not clearly described	17	81	3,816	543	4,457
Totals	4,898	7,610	109,577	2,333	124,418

TERRITORIES	Forestry, agriculture, hunting, fishing	Extractive industries	Manufact- uring industries	Con- struction	Electricity, gas, water and sani- tary services	Trade	Transport- ation, storage, communi- cations	Ser- vices	Activities not clearly described	Total
Kigali	1,332	2,544	545	1,078	263	798	609	542	686	8,397
Nyanza	1,887	439	893	677	65	1,329	864	1,863	639	8,656
Astrida	2,394	115	70	540	312	431	809	2,418	—	7,089
Shangugu	1,824	883	165	285	20	541	614	375	271	4,978
Kibuye	508	847	370	385	148	286	596	825	—	3,967
Kisenyi	1,659	1,583	263	952	289	555	70	2,104	—	7,475
Ruhengeri	2,511	672	162	164	1,256	228	593	707	93	6,386
Bumba	932	79	15	135	10	176	390	546	—	2,193
Kibungu	1,035	1,383	31	25	20	361	428	1,462	—	4,745
RUANDA	14,082	8,545	2,514	4,241	2,383	4,705	4,975	10,752	1,569	53,886
Usumbura	1,087	207	2,978	5,380	332	3,915	1,252	5,064	29	20,244
Bubanza	1,828	920	372	337	1	372	978	782	270	5,860
Kitega	922	187	43	998	355	239	583	1,037	12	4,376
Muramvya	1,350	475	25	40	30	610	1,100	625	300	4,555
Ngozi	478	781	60	1,315	180	828	1,327	1,112	604	6,685
Muhinga	1,152	28	—	126	257	412	1,250	568	217	4,010
Ruyigi	322	63	—	233	59	87	273	342	48	1,427
Rutana	542	45	—	157	14	90	214	309	188	1,559
Bururi	2,309	56	—	179	61	446	180	566	440	4,237
URUNDI	9,990	2,762	3,478	8,765	1,289	6,699	7,157	10,405	2,108	52,953
RUANDA-URUNDI	24,072	11,307	5,992	13,006	3,672	11,704	12,132	21,157	3,797	106,869

50. — If, on the other hand, one considers not the minimal salaries and rations, but the real scale applied to the different categories of workers, one notes that it is in the lowest nominal salary brackets that the workers benefited from the most marked increases, relatively. Whereas, in 1957, the remuneration of a day worker reached more than 400 % of what it was in 1949, this proportion drops to some 200 % for the skilled government workers and to 241 % for the agents on a lower level.

51. — Other particularly timely preoccupations of the government concern the classification of workers and the setting up, according to this classification, of tension scales of salaries as they already exist in most of the large Congolese companies. This reform will first be applied to those working for the government, but will of course have widespread repercussions throughout the private sector. Among other things, this reform will be expected to resolve the problem caused by the disparity between the salaries of office workers and those of manual workers, disparity which is at the root of the natives' preference for the white collar job and their dislike for all manual, especially agricultural, work.

GENERAL CHARACTERISTICS OF THE PRESENT-DAY ECONOMY

52. — It is almost redundant to repeat that the economy of Ruanda-Urundi is dominated by agriculture. In spite of the important role played by stock-breeding in this country, the income from this occupation is by far lower than that from farming. The role of non-natives in agricultural and stock-breeding activities is very limited because of the restrictive policy adopted by the government in the granting of farming concessions. The total amount of this non-native production is not more than about sixty million francs per year. It is, therefore, the native population which is responsible for almost the entire agricultural production.

53. — The still marked predominance of the subsistence economy is seen in the preponderant importance of the production of food crops, the greatest part of which is used directly by the producer, only a small share being commercialized. The annual global volume of this production may be estimated at 6,172,880 tons.

54. — The monetary income of the native farmer comes from his industrial crops, especially cotton and coffee. At present, this may be estimated at about 900,000,000 francs per year from farming, 114,000,000 francs from stock-breeding and 28,000,000 francs from fishing.

55. — Outside of mining, industrial activity is still not very developed. Contrary to agriculture, it is principally in the hands of non-natives.

56. — As for trade, most of the activity in this area is aimed at

either the purchase of the products of native commercial crops, as well as their export after processing and conditioning, or in the reverse direction, the volume and distribution of the goods which the natives are able to purchase, thanks to the buying power created by the former operation.

57. — The government has no direct role in the economic production of the Territory. Its role is to facilitate economic development, to encourage and promote the rise of the country through scientific institutions, experiment stations and selection farms. At the very most, the Administration manages certain economic activities carried on with state control by the countries or chieftaincies or guides native cooperatives through the advice of its technical services.

58. — Nationals of all nations enjoy equal treatment in the field of economic activity.

59. — There are no governmental trade institutions. Certain bodies do, however, intervene in order to regulate transactions. The "Commission des Devises et des Importations" (Currency and Importation Office) controls the import trade. It is made up of the representative of the "Banque d'Emission du Rwanda et du Burundi" and of the delegate of the government and has its head office in Usumbura. It is competent in the reduction, adjournment or refusal of the requests made. Appeals against the decisions of the Commission may be lodged with the "Office des Devises".

The "Banque d'Emission" also exercises control over the currency coming from exportation and the various transactions involved in the movement of currency and gold.

60. — The aim of the "Chambres de Commerce et d'Industrie" (Chambers of Commerce and Industry) is to participate in the development of trade and industry in their zone of activity, to supply their members with all the information needed in the exercising of their various activities, to receive and circulate business offers.

The "Chambre de Commerce et d'Industrie du Ruanda-Urundi" has its head office in Usumbura. It has one hundred and twenty-five members.

The "Chambre de Commerce et d'Industrie du Nord du lac Kivu" has its head office in Goma-Kisenyi. It has one hundred and twelve membres. Its scope of activity stretches both to the north and west of Lake Kivu in the Congo.

Distribution of businesses and corporations according to activity and nationality (1).

NATIONALITY	Agriculture, forestry, hunting, fishing	Extractive industries	Manufact- uring industries	Construc- tion	Electricity, water, sanitary services	Trade, banking, insurance, real estate	Transport- ation, storage, communi- cation	Miscella- neous activities	Totals
<i>A. — European :</i>									
Belgium	14	18	58	36	—	109	21	64	320
Greece	6	—	13	9	—	122	—	8	158
Italy	1	—	7	28	1	11	1	1	50
United Kingdom	—	—	1	—	—	27	1	—	29
France	1	1	2	1	—	9	—	2	16
Portugal	—	—	2	—	—	10	1	4	17
Netherlands	—	—	2	2	—	3	—	1	8
Switzerland	—	—	3	—	—	—	—	3	6
Luxemburg	—	—	2	—	—	2	—	—	4
Others	1	—	1	2	—	14	2	4	24
Total	23	19	91	78	1	307	26	87	632
<i>B. — Asian :</i>									
C. — <i>African :</i>									
Ruanda - Urundi and Congo	23	3	119	4	—	3,993	101	465	4,708
Kenya - Uganda - Tanganyika	1	—	1	3	—	59	7	3	74
Others	—	—	2	—	—	5	1	1	9
<i>D. — Corporations :</i>									
General total	49	27	231	89	2	4,819	165	574	5,956

CHAPTER II

THE TEN YEAR PLAN

SUMMARY

Aims and History of the Ten Year Plan.
Summary of Ten Year Programs.
Financing.

AIMS AND HISTORY OF THE TEN YEAR PLAN

61. — When the "Ten Year Plan for the Social and Economic Development of the ex-Belgian Congo" was elaborated, it was understood that a separate program, although having the same aims, would be devoted to Ruanda-Urundi.

Such a distinction was necessary, despite the numerous similarities in the two plans, and this for many reasons : " The juridical status of the two territories is different, their budgets are separate, finally and most important, their problems are essentially different, so that the same policy, the same methods, applied to these two regions of Africa, however close, by the same nation with its strong and clear traditions, must be reflected by separate programs designed specifically for each. The populations, their density, their distribution, their customs; the soil, its texture, its value, its use; the resources, their nature, their extent; the cattle, its race, its political and social significance; the customs, their origins, their demands, their aims; the political structure, its social and juridical extensions — all that, which is complex and shaded in the extreme, is essentially different in the Congo and in Ruanda-Urundi. For this reason, it was necessary here and there, to find adequate, often opposing, solutions to the problems ".

62. — The principles on which each plan was based were, otherwise, exactly the same, each one being justified by similar reasons of an administrative, economic, social and political nature.

As far as Ruanda-Urundi, as well as the Congo, is concerned, it proved necessary to plan programs extending over a rather long period of time rather than a series of more or less coordinated annual plans; these long-term plans had to embrace many fields of activity in order to enable the Administration to compare the various projects and to make a synthesis of them within a general framework.

Likewise, from the economic point of view, it was indispensable to provide public equipment adapted to the expansion of production and trade which was foreseen.

Socially and politically, through education and propaganda, it was necessary to bring the native populations closer and closer to the realization of the objectives tending to raise their standard of living, while progressively inculcating them with political ideals which would enable them to adapt to a democratic way of life.

63. — Based on these principles, the Ten Year Plan of Ruanda-Urundi is essentially a synthesis inspired by faith in the future.

After having drawn up an inventory of the situation existing at the time when it was elaborated, after having explained the problems involved in the development of the Territory, the Ten Year Plan enumerates the programs advocated and the means to be used in order to resolve these problems.

The programs planned, without being compulsory, must be considered as a maximum of what seemed attainable within a ten-year period, at the time when the plan was elaborated.

64. — It is nevertheless necessary to emphasize that " in Ruanda-Urundi, more than elsewhere perhaps, technical solutions will be but dead solutions if one is not concerned first of all with the sole living problem, primary and fundamental, that of the native and his behavior. What would be the use of realizing, at the cost of much money and sweat, the above programs, if the populations of the Territory remained alien and insensitive to them? What would be the result of the immense coordinated task of those who conceive, order and execute? One must be convinced that, without the natives, outside of them, everything would be impossible a priori, and that nothing would be worth even trying ".

That was what led the authors of the plan to conclude, in introducing its programs : " It is a question not only of carrying out the various material tasks but, more deeply, of reaching the native in his conscience, his mind and his heart, in order to reshape his mentality and transform his life. Here is, next to and beyond the technical solutions advocated by the plan, the first and living solution toward which everyone must strive ".

65. — The "Ten Year Plan for the Economic and Social Development of Ruanda-Urundi" was published in 1951. Beginning in 1952, it covers the period from 1952 to 1961.

SUMMARY OF THE TEN YEAR PROGRAMS

66. — The plan successively tackles the programs relative to the evolution of the population and its needs, the development of public services and animal and vegetable production, mining, industrial and commercial development as well as to scientific research.

These various programs are closely interdependent, both as far as their respective objectives and the means to attain them are concerned.

67. — The entire economy of the plan is dominated by the distressing problem of overpopulation, both human and animal, which is the basic cause of the decrease in the fertility of the land.

The problem was crystallizing as follows when the plan was drawn up :

" According to the results of an estimative census of land occupation, the following was the situation at the end of 1949 :

" — According to their use, 25.28 % of the land is unfit for farming and stock-breeding and 74.72 % is fit.

The latter is comprised as follows :

" 41.42 % agricultural land;

" 29.30 % stock-breeding land;

" 3.99 % forest land;

" — Each family has an average of 7 acres for its crops, and each head of cattle 4 acres for grazing, whereas in a country such as this one, it is necessary to have between 5 and 12 acres of crop land per family and an average of 7.50 acres of pasture land per head of cattle. "

On the basis of this data, there would have been in Ruanda-Urundi, in 1949, "one hundred and forty-five thousand surplus families out of a total of seven hundred and eighty thousand and a surplus of four hundred and forty thousand heads of cattle out of nine hundred and seventy thousand ".

68. — The studies undertaken since 1949, especially those done by INEAC and the Agricultural and Veterinary Services, have fortunately led to much less pessimistic conclusions concerning the vital need for crop land per family and grazing land per head of cattle : this has been discussed in the chapters on agriculture and stock-breeding. Nevertheless, the basic problem of overpopulation remains essentially at the basis of the preoccupations created by the development of the Territory.

69. — The data concerning undernourishment emphasizes the seriousness of the problem : on the basis of figures relative to the dietary needs of the population on the one hand, and to the products available for consumption on the other, one learns that, for 1949, there was a lack of at least 12,126 tons of animal protides as compared with needs estimated at a minimum of 15,433 tons and of about 48,505 tons of lipides, the need for which is estimated at 71,656 tons whereas the figures relative to vegetable protides and glucides showed a large surplus.

70. — In an attempt to remedy such a serious situation or, at least, to prevent its further aggravation, the plan advocated a series of measures which, centering on the struggle against the impoverishment of the soil, constituted the heart of the ten year programs and may be summarized by the following imperatives : selective reduction of bovine livestock (cattle), thinning out of the overpopulated zones by resettling part of their population in the more sparsely populated regions to be developed, specialization and development of the agricultural production of the natural regions.

71. — In order to achieve these aims, the plan set forth a program,

the objectives and driving power of which may briefly summarized as follows :

— To preserve the soil and to increase output per acre with the help of INEAC, among others;

— To encourage the resettlement of people;

— To create complementary zones, some where the cultivation of crops would be intensified, especially those providing a source of fat, others intended for export crops, mainly Arabica coffee and cotton;

— To prepare for resettlement those regions able to receive rather large numbers of people, among others, Imbo, Moso, Buyogoma, Mutara and the valleys of the Kanyaru and the Nyabarongo;

— To foresee the possibilities of emigration toward certain Congolese regions;

— To study the possibilities of irrigation and apply the means necessary to carry it out;

— To create the proper conditions which would give rise to rational stock-breeding, implying the progressive elimination of worthless stock;

— To promote the development of fishing and pisciculture.

72. — Grafted on to this fundamental aim, the other programs included in the Ten Year Plan strived :

— To fulfill the needs of the population, especially in the fields of education, medical work, housing, water supply and cultural development;

— To adapt the economic infrastructure of the Territory to future needs in the field of road, water and air transportation as well as the public services, notably telecommunications, cartography, cadastral survey, geology and hydrology;

— To promote scientific research incumbent mainly on INEAC and IRSAC in order to complete or improve the inventories on which the economic and social expansion of an under-developed country is centered.

73. — The Ten Year Plan has been carried on since 1952. Modifications and adjustments of the programs were made necessary by changes in economic and social needs. In certain sectors, the provisions of the plan have already been overtaken by certain achievements. In other fields, work has been retarded by financial difficulties or other obstacles. The main principles of the task remain undisputed, but the details must be reshaped and brought up to date; this work has just been started and is being actively pushed.

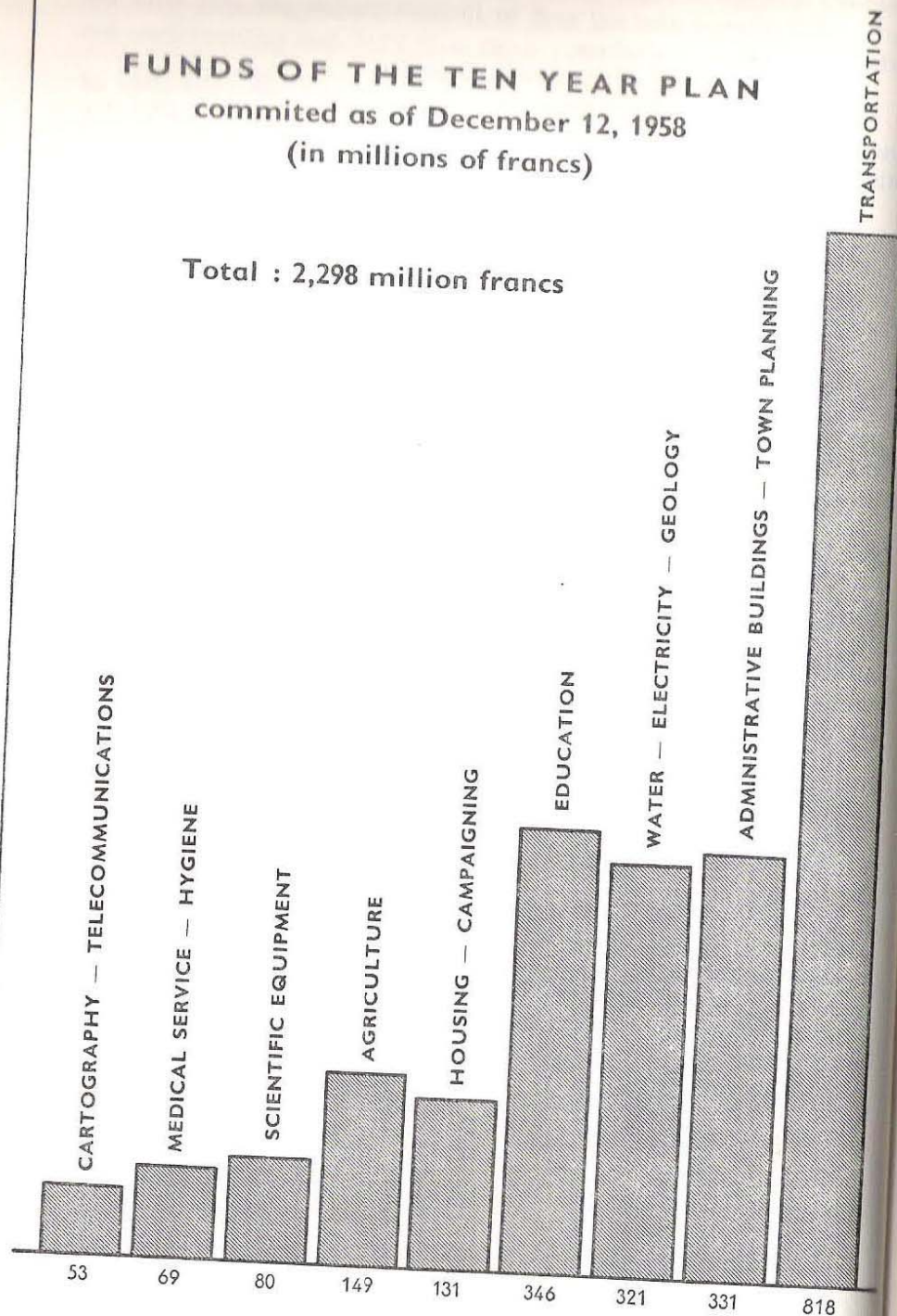
FINANCING

74. — The programs advocated by the Ten Year Plan represented investment expenditures estimated at a total of 3,670 million francs when they were drawn up.

The sum total of the initial provisions turned out to be appreciably inadequate because of the rise in prices and in the cost of services which

FUNDS OF THE TEN YEAR PLAN
committed as of December 12, 1958
(in millions of francs)

Total : 2,298 million francs



place when the ten year programs, in the Congo as well in Ruanda-Urundi, began to be carried out.

75. — The financing of these investments was ensured, as soon as the plan began to be carried out, by advances from the Belgian State amounting to 400 million francs a year, by the resources — of little importance — of the extraordinary budgets of the Territory, as well as by the subsidies made by the Native Welfare Fund to Ruanda-Urundi, mainly to supply water in the indigenous areas. Moreover, certain economic investments with ensured economic returns, can be financed by loans from the International Bank for Reconstruction and Development; such a prospect has crystallized in a loan for port construction work and the laying of road beds; other loans may be foreseen later for rural hydraulic investment.

Moreover, new prospects for financing are being realized through the participation of the "Fonds de développement pour les pays et territoires d'outre-mer", created within the framework of the European Economic Community (EEC).

The portion of this financing which would be reserved for the Territory would reach, for a five-year period (1958 to 1962), a sum total of 500 million francs. Among the projects suggested for the 1958 installment, which involves a sum of 50 million francs, the following have been approved by the EEC :

- Development of the Mayaga-Bugesera;
- Improvement of the road links with the Usumbura-Kigali artery by the building of a road from Bugarama to Muramvya :
- A more direct road from Kitega toward the Moso region;
- Building of a tea factory in the Byumba Territory.

Ten-Year Plan Funds Committed as of December 31, 1958.

		Millions of fr.	%
A. — <i>Economic development investments.</i>			
— Transportation	818		
— Agricultural and stock-breeding development	149		
	—	967	42 %
B. — <i>Investment in scientific equipment and public services able to affect the development of Ruanda-Urundi.</i>			
— Geology and hydrology	33		
— INEAC	60		
— Professional training	60		
— Cartography	8		
— Telecommunications	45		
— REGIDESO (providing the centers with water and electricity)	238		
— IRSAC	20		
	—	464	20 %

C. — *Investments of a social and public nature.*

— Education (except for professional training)	286
— Sanitation and medical training . .	69
— Welfare and social services	14
— Water supply in rural areas	50
— Housing in the centers (" Office des Cités Africaines ")	117

D. — *Investment for administrative buildings and town planning.*

—	536	23 %
331	331	15 %

Totals	2,298	100 %
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CHAPTER III

AGRICULTURE, FORESTS, HUNTING AND FISHING

SUMMARY

Historical Background and Customs.
Present-Day Agriculture.
The Agrarian Reform.
The INEAC.
The OCIRU.
Forests.
Hunting.
Fishing.
National Parks.
Rural Engineering.

HISTORICAL BACKGROUND AND CUSTOMS

76. — The hypothesis concerning the occupation of the country mentions the successive arrival of the Twa, the Hutu and the Tutsi and retraces their gradual migrations toward the west and the progressive clearing of the forest.

77. — Loath to live in communities or village groups, the herders and farmers dispersed on the slopes. The organization of life on the soil was transferred to the family organization; the circular enclosure, the "rugo" shelters a certain number of huts where the parental group is divided up by generation and by household; it is, at the same time, a cattle kraal, a fortification wall and a kind of magic threshold before which the stranger stops and coughs in order to announce his presence to avoid the risk of being taken for a thief or an outlaw. The enclosure is naturally the center of the property, of the family "cradle" (the Rwanda word "ingobyi", often used to designate this property, has this meaning): around this enclosure they plant banana trees, basic and rich crop which, because it is near the dwelling, is regularly fertilized by household wastes which provide it with natural fertilizer; the banana trees, priceless treasure, inexhaustible source of those pitchers of beer without which friendship, marriages, mourning, land rental or pastoral bondage, witchcraft or esoteric rites cannot be conceived, carried out or concluded. Finally, the fields of beans, sweet potatoes and sorghum, that expand at the same rate as the family, encircle the banana plantation; these fields are small, irregular and as numerous as the varieties cultivated there, often mixed up, even within the limits of a single plot. For the reasons explained in the first chapter, the native does, in fact, cultivate many crops and intercalary or associated crops (beans-maize, manioc-groundnuts, maize-groundnuts-beans, manio-eleusine, bananas-beans, etc.).

78. — The enclosure and huts, banana plantation and fields of seasonal crops, with a reserve of fallow land when possible constitute the holding (*isambu* in Ruanda, *itongo* in Urundi) which, under the pressure of men and the constant division of land, is tending more and more to be the apurage of only one nuclear family, whereas the *ingobyi* seems to have been rather the domain of the larger family unit. As the family grows, as the basic unit expands, a subdivision is added to the enclosure, a new hut is built, new plots are brought under cultivation on the edge of the cultivated lands. When the kinship nucleus becomes too large, when it would become necessary to cultivate too far from the enclosure, when the extension of the holding reaches other occupied lands and conflicts with other rights, the unit breaks up and the young households take wing and seek new homes on available lands.

79. — Food crops were generally grouped together in a single block, except, it seems, in the northern chieftaincies of the Ruhengeri and Byumba territories (for example, in Murera and Ndorwa), where the different fields of the same family are scattered over several hills. Marsh crops are, of course, an exception to this rule. Because of the demographic pressure which an extremely prolific population exercises on the land, occupation has become stabilized and the nomadic stage has for a long time, been passed. This can be seen by the way in which certain kraals, trampled by generations of cows, have become hollowed out like shells, sometimes as deep as to the rock bed, within the enclosures. Traces of the nomadic culture are found in certain sparsely-populated regions on the periphery of the country, such as in Moso, where, moreover, strangely enough, the "rugo", the enclosure itself, is little known.

80. — The Rwanda and Rundi did not disperse at random over their thousands of undulating hills and valleys; they chose their habitat first with infallible instinct and then with peasant stubbornness. There were few of these where the altitude was low, the climate hot and unhealthy; they fled from the wild animals which ravaged the crops or the ticks which attacked the cattle; they avoided the badly irrigated lands or mediocre harvests and settled preferably in high altitude zones, especially in the spots where the land was the most fertile and the rainfall the most plentiful, without concern for the soil which their concentration hopelessly impoverished and exhausted. The meager remainder of the primitive forest is the most eloquent witness to the irreparable depredations of the Hutu farmers who moving westward, relentlessly, for decades, cleared away the forest, to find virgin land giving a high yield, and thus reached higher and higher altitudes.

81. — The savannas of the east and the Rusizi plain were sparsely populated (at least the latter until the Administration undertook to parcel it out and to settle farming communities, now growing rapidly, there); the most densely populated regions are situated along the Congo-Nile ridge and near the forest. The densest population centers occupy the territories of Ruhengeri, Kisenyi, Astrida, Ngozi, Muramvya and Kitega, that is, the plateaus located, in general, between 5,580 and 6,560 feet above sea level.

82. — Men preferred to settle where the slope was the most gentle in relation to the environment: for example, on the summit of rounded hillocks, where the outline of the hills is generally convex and where the incline becomes more accentuated toward the marshes; in the concave slopes created under the immediate shelter of the mountain when it is hollowed out by erosion and when the summit is but a stony desert. Universally and steadfastly, they seemed to have feared proximity to valleys, lower depths and rivers. The very long distances that they sometimes had to cover in order to obtain the strictly necessary supply of water never seemed to have influenced their decisions.

83. — Tutsi herders and Hutu farmers live side by side everywhere, but their different vocations make their relative importance, in relation to each other, vary from one region to another. There are specifically agricultural regions inhabited almost exclusively by Hutu, such as Rikiga, home of stocky, vigorous and violent men; Bugoyi, colonized long ago by immigrant clans from the Congo; the Bubanza territory, almost entirely agricultural. On the other hand, it is natural that Bututsi, high land covered with pasture, paradise for cattle, be inhabited mostly by Tutsi, as its very name clearly indicates; the same is true for the pastoral regions of Bugesera, Buganza or Mutara. It is just as natural for the Tutsi of Ruanda to have settled in great numbers in the regions around Nyanza, seat of the Court of the Mwami since Musinga (1) and the Kibuye territory where Rwabugiri (2) had his residence: these capitals were formerly the preferred residence of the provincial chiefs and the important vassals and, above all, the place where these born courtiers came to seek — or to lose — great fortunes and high destinies, to win for their family or their clan the prestige and the divine felicity provided by the possession of large herds.

PRESENT-DAY AGRICULTURE

84. — Ruanda-Urundi enjoys four agricultural seasons:

- The short rainy season, from October to December, is the first farming season of the agricultural year;
- The short dry season, which usually falls in January-February;
- The long rainy season, from March to May, which is the second farming season;
- The long dry season, from June to September which is, for marsh crops only, a third farming season.

For the altitude crops, only the first two seasons are to be considered.

85. — There are three main crop zones:

- The low altitude zone (2,625 to 4,265 feet) is favorable to subsistence crops such as maize, groundnuts, beans, sweet potatoes, bananas, paddy, Indian potatoes and manioc; it is also favorable to economic crops such as Robusta coffee, cotton, and elaeis palm;
- The average altitude zone (4,920 to 6,235 feet) covers the greatest part of the Territory. There the natives grow beans, maize, sorghum, groundnuts, soja, squash, coleus, bananas, sweet potatoes and manioc. Arabica coffee thrives there. One also finds ricinus, pili-pili and tobacco;
- The high altitude zone (above 6,560 feet) is favorable to peas, maize, sorghum, eleusine (yard-grass), beans, soja, sweet potatoes and potatoes as well as to the economic crops of wheat, barley, tea and

(1) and (2) The two predecessors of Mutara Rudahigwa, if one does not count the ephemeral reign of Mibambwe Rutarindwa.

tobacco. European colonists have set up a few plantations of pyrethrum, tea, geranium and vetiver.

86. — The natives' **farming tools** are mainly:

- The hoe (tilling and crumbling);
- The pruning-knife and the machet (cutting of herbaceous plants and underbrush);
- The tilling hook (tilling and uprooting of couch-grass and imperata);
- The axe (felling of trees).

87. — Besides natural fallow land, a few rotation or pseudo-rotation systems and a few rudimentary conservation practices, the natives nowhere practiced anti-erosion methods or the rational farming of their land.

The **scientific research** carried on in accordance with the provisions of the Ten-Year Plan bore especially on the following points:

- Pedological studies, going on since 1951;
- The study of the area strictly necessary for one nuclear family unit, according to the natural region, the population density and the type of farming;
- Study of the best rotations;
- Study of the fallow land (system, duration, nature).

88. — The basic principles revealed by these studies are now being verified in the rural areas, in the native farming communities and alignment-allotment. Nevertheless, a certain agricultural discipline and rational farming methods are now infiltrating into the rural areas, as a result of the persevering action of the agricultural service. The struggle against erosion, carried on by means of ditches and hedges along the contour lines, is spreading and terraces are being rapidly formed in several regions, favored by tilling which carries the soil toward the lower hedge. Starting from the outline thus formed, the native plants his crops in bands where fallow land alternates with seed-beds and which are laid out perpendicularly to the steepest slope.

89. — Little by little, the practice of burning organic matter resulting from clearing or tilling the land is being replaced by using the hoe, exception made for couch-grass of which the rhizomes are removed and burned or transported within the enclosure in order to be used for fuel. The practice of mulching is, moreover, widespread on coffee and banana plantations.

90. — The **rural specialists**, on leaving the Karusi and Mparambo farms where they have been trained, receive farming material (oxen, a plow, a harrow, a yoke, a pulper), which makes their settling in a native environment possible. The aim of this experiment is to study the behavior of the planter with regard to the plowing contractor, the future possi-

bilities of mechanical plowing and the best orientation to be given to this type of agricultural instruction.

91. — The **mechanization** of agricultural is still far from realization. Much research is yet to be carried on relative to the application of mechanical methods of farming to tropical soils. This research is being done by INEAC. Rational and economical mechanization also requires the collaboration of the various government services concerned: sanitation, public works, territorial service, so that the tractors and tractor-drawn tools may carry out, not only agricultural work, but many other tasks such as drainage, spraying of insecticides, road maintenance, local transportation of farm products (cotton, coffee, palm fruit), treatment of products, etc. Tests of mechanical plowing by tractors are now being made.

92. — The conservation of the soil's fertility is, moreover, one of the main preoccupations of the Agricultural Service; the practice of using **manure and compost** has also been spread as much as possible among the natives. **Chemical fertilizers** have been or are now being tested.

93. — The principal measures adopted in order to increase the farming yield include the drainage of the marshy land, the irrigation of regions where rainfall is inadequate, soil conversation, the introduction of seed selected and adapted to the ecological conditions of the region and, finally, the struggle against epiphytic diseases and insects.

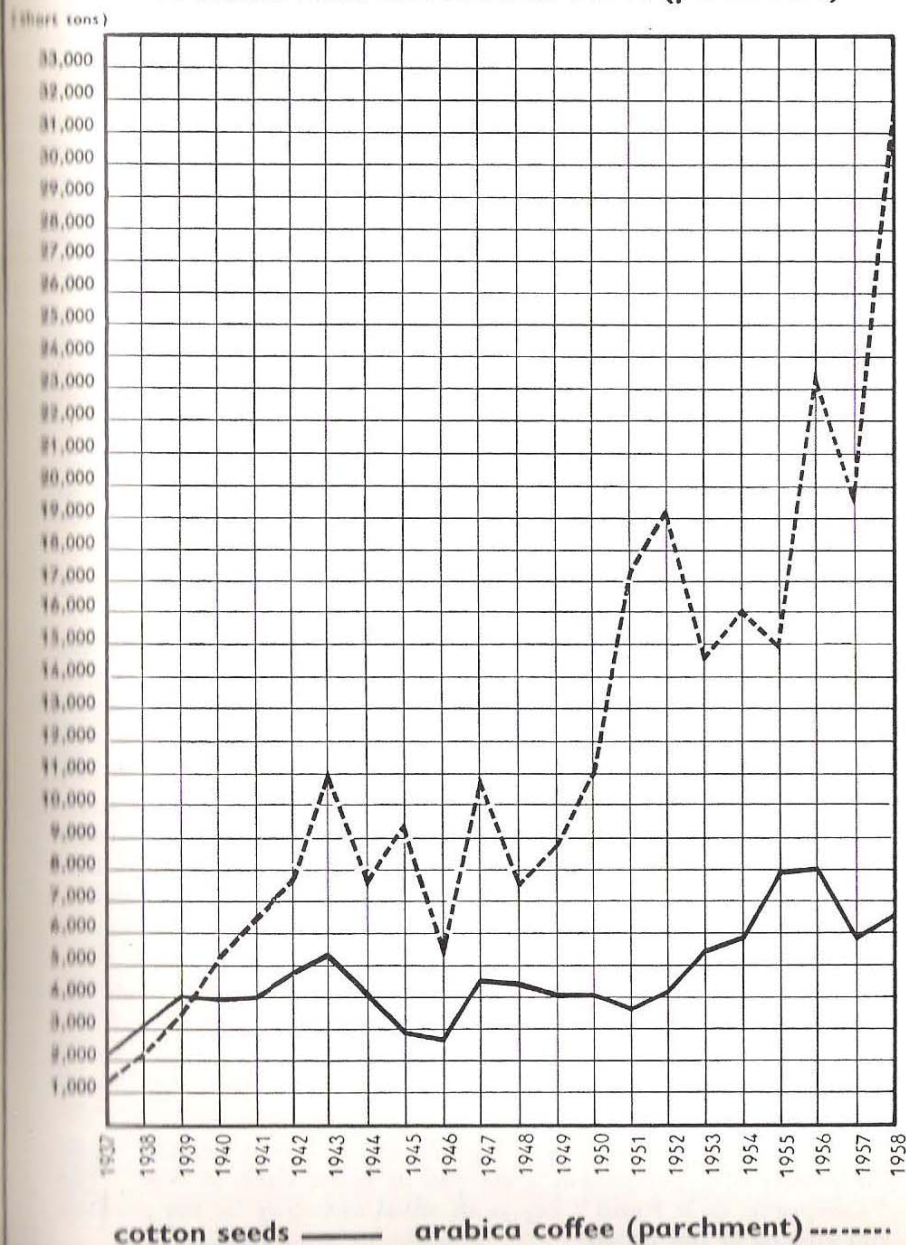
94. — The efforts made by the trusteeship government to implant in the rural areas, then to spread as much as possible, the **industrial crops** best suited for assuring the planters ready money, deserve special mention. These industrial crops are, above all, coffee in the mountains (average altitude zone) and cotton on the Rusizi and Lake Tanganyika plains.

Coffee.

95. — Coffee was introduced in Ruanda-Urundi by missionaries and Arab traders. When the Belgians occupied the country, there were already some coffee trees in the gardens of the missions and in those of some notables and tradesmen.

96. — It was in 1932 that the government planted the coffee crop in the favorable regions. The first tests were made by means of individual, but grouped, plantations of fifty-four coffee trees. This method of farming did not appeal to the natives and the free lands were not always suitable for the coffee crop. The plantations were then placed on the good lands of the family holding, immediately surrounding the hut. At present, there is a tendency to group the coffee trees in the choice lands enjoying a favorable exposure and climate, to plant the trees in bands along the contour lines and near approach paths. In

NATIVE PRODUCTION of cotton seeds and Arabica coffee (parchment)



the native farming communities, the coffee trees are planted preferably next to the paths on the contour lines along which allotments are made in order to facilitate the inspection and the phytosanitary treatment of the trees.

97. — At present 65 million coffee trees have already been planted; 15 million more are planned. Exports, which reached 98 tons in 1932, reached 20,278 tons of marketable coffee (that is 28,198 tons of parchment coffee) in 1958.

98. — The coffee planted in Ruanda-Urundi is a Mibirizi variety of Arabica, sweet, delicate coffee, the qualities of which are much appreciated by coffee roasters in the United States who find it an excellent ingredient for their blends. Ninety to ninety-five percent of the coffee produced in Ruanda-Urundi is destined for the United States. Almost all of it is exported via Dar-Es-Salaam.

99. — In 1958, the price paid to the planter was on the average about 22 francs. The buying power thus gained by the native growers is very near 550 million. Production, more than 30,864 tons of parchment coffee (that is, 26,014 tons of marketable coffee) in 1957 will probably exceed 33,069 tons of parchment coffee (that is, about 28,660 tons of marketable coffee) in 1959.

100. — In order to protect the interests of the planters, a minimum price for the purchase of parchment coffee from the growers is fixed for each locality; it fluctuates according to the variations in the export market.

101. — One notes a more and more marked tendency among the growers to join together, either in cooperatives with legal status or in actual associations, in order to be able to deal directly with the export market and thus to obtain the best prices. Nevertheless, middlemen still assure the collection of the greatest part of the production in the commercial and trade centers of the interior.

102. — Finally, since 1956, plantations of Robusta coffee have been producing on the Lake Tanganyika plain (Bubanza and Bururi territories).

Cotton.

103. — For the past few years the production of cotton seeds has been oscillating between 5,511 and 8,047 tons and provides the growers with an annual income of 30 to 45 million francs. The average income per grower was 5,300 francs in 1958. The cotton seeds are treated in oil works.

104. — The cotton seeds are purchased at special markets under the control of a government agent and at prices fixed by him. The "Compagnie de la Rusizi" enjoys an actual monopoly for the purchase and ginning of raw cotton.

105. — The cotton decree gives all of the profits from the sale of cotton and of its by-products to the growers. The role of the cotton company is limited to the processing of the cotton for the growers and to providing transportation and sale through a central body, the "Comptoir de Vente des Cotons du Congo". This body sells the cotton fiber for the benefits of the native growers. The market price is ear-marked for the following uses:

- To pay factory and transportation costs;
- To feed the compensation fund;
- To pay the producer, in proportion to his contribution, the difference between the advance already made and the market price, minus the above expenses and contributions.

106. — The system set up by the cotton decree was first applied to the 1950 cotton harvest, sold in 1950 and 1951. Thanks to the high quotation price of the fiber and to the judicious sales operations carried on by the "Comptoir de Vente", each producer received most adequate remuneration, in proportion to his individual contribution and in spite of the fact that a part of the commercial profit was used to feed the "Caisse de Réserve Cotonnière", of which the prime function is to avoid drops in the quotation price of cotton and to make it possible to maintain direct remuneration to the grower at a satisfactory level, even during bad years.

The table below traces the evolution of the payments made to cotton growers during the past years.

Temporary advances made on crop delivery
(per kilogram (*) of cotton seeds).

Year	First quality cotton seeds Fr.	Second quality cotton seeds Fr.
1952	7.—	5.—
1953	6.50	4.50
1954	6.50	4.50
1955	6.50	4.50
1956	6.50	4.50
1957	6.50	4.50
1958	8.—	5.—

107. — The aim of the "Caisse de Réserve Cotonnière" (Cotton Reserve Fund) is to regularize the economy of the cotton production and to promote the economic and social development of the districts concerned. Through the action of the system of the grower's direct and indirect remuneration explained above, the Fund accumulates reserves,

(*) One kilogram equals 2.2 pounds.

the purpose of which is to normalize purchases prices to the natives; its funds are also used for the free distribution of agricultural equipment to the growers and the maintenance of roads used in this connection. Thus fed by surpluses from the sale of cotton and its by-products belonging to the natives, the Fund has its own budget, independent of those of the former Belgian Congo and Ruanda-Urundi, and a character distinct from that of the "Comité de Gérance" (Management Committee).

108. — The "Comité de Gérance" (COGERCO) sits in Leopoldville; it is made up of civil servants and representatives of cotton companies. When necessary, or on the request of the Governor General, it determines the value of the cotton and its by-products belonging to the natives and the temporary or permanent payments to be made to them: it studies all questions relative to the feeding of the Cotton Reserve Fund, all plans to use reserves and, in general, all questions in which the general interest of the growers or of the districts to which they belong are concerned; it makes all the propositions relative to the use of reserves.

109. — Besides the two main commercial crops, coffee and cotton, it is necessary to mention, among the natives' money-earning activities, the working of **palm plantations** situated along the northeast shore of Lake Tanganyika and, in the higher regions, **tobacco, barley and wheat**. The gathering of **ricinus**, stimulated by the high quotation prices for this product and the recent reduction in export duties, is also a non-negligible source of cash for the natives. The global monetary income from these secondary agricultural activities was estimated at 136 million francs for the year 1958.

110. — Definite progress has been made in the field of agriculture thanks to the creation of an apicultural center and the installation of many improved hives among the natives. This program is being financed by the "Fonds du Bien-Etre Indigène" (Native Welfare Fund).

Agricultural Instruction.

111. — A professional agricultural school was opened in Karusi (Urundi) in September 1956; it provides three years of study (of which the last year is a training period) and trains agricultural monitors. In 1958, there were twenty-eight pupils enrolled in the first year and fifteen in the second year. A similar school is being planned near Kigali. The training of rural specialists on the farms of Karusi and Mparambo has been mentioned above.

112. — Within the framework of the "Groupe Scolaire d'Astrida" (Astrida Scholastic Group) an agricultural section, in existence since 1938, trains young people to be agricultural assistants after four years of study, of which one year is a training period. Only those pupils who have successfully completed the lower cycle of secondary studies are per-

mitted to enroll in this program. Until now, this section has conferred 83 diplomas.

113. — The "Institut Agronomique et Zootechnique de l'Université Officielle du Congo et du Ruanda-Urundi" opened in Astrida in 1957 (pre-university year) and in 1958 (first academic years). It will confer the degree of agronomical engineer after successful completion of a five-year study program. This Institute was transferred to Usumbura in 1960.

THE AGRARIAN REFORM

114. — The **native farming** communities are essentially a form of specialized agricultural action in the rural environment. Their primary aim is to spread rational methods of working the land and they are basically an attempt to protect and improve the soil capital. This reform appears as the starting point of the economic revolution that will transform the land hoer into a true farmer; the man with the hoe, bound to a task which barely affords him subsistence, into a specialized producer; a food, even survival, economy into an economy of intensive production and social development.

115. — In Ruanda-Urundi, this basic principle, which seems simple, came into conflict with all sorts of contradictory demands: over-population resulting in the scarcity of available lands, the need to settle a growing number of peasants each year, the obligation of conserving the soil while raising crop yield, the advisability of not allowing the disorderly occupation of the scarce lands still available, but at the same time not to frustrate individual initiative, and to avoid squeezing the peasants into too rigid a framework, harmful for normally individualized social life. It was necessary to inaugurate progressive agricultural techniques making possible constant control and increased output with a minimum of land waste.

116. — The framework set up in terms of these principles in the various native farming communities may be adjusted to economic circumstances. Any evolution of the land policy making it possible for the hard-working peasants to acquire, by solid juridical means, the lands really developed will be heartily encouraged, no matter what their area, to the extent that this freedom does not jeopardize the communities or favorize the recognition of large properties out of proportion with the efforts made by their holders.

117. — The native farming communities and pilot sectors are choice places for the thorough observation of the particular psychology or agricultural past of the farmers and their reactions in regard to the new farming methods and ways of life offered to them. The regulations aiming at the establishment of a rational farming system are reduced

to a minimum there in order to allow as free a reign as possible to the spontaneous reactions of the rural population.

118. — The methods now applied emphasize the production of food crops and foresee a complementary money income through the sale of surplus food and especially of a rich product such as coffee or cotton. The introduction of stock-breeding into the economic cycle is now under consideration. The future will hold greater specialization by region, greater development of complementary zones, more rational usage of stock-breeding regions through appropriate planning.

119. — The general overpopulation of the country and the consecutive parceling of agricultural lands forced the government to carry on successive experiments by setting up native farming communities in the non-saturated regions: Imbo (zone of the earliest attempts, from 1946 to 1948, localized in Mparambo, then of the first large-scale program, that of the Rusizi plain), Moso, Bututsi, Bugesera, Mutara, Gisaka and Buganza. The arable lands still not cultivated are estimated at 1,866 square miles and can hold about 120,000 families.

120. — When the question of who was to occupy these lands arose, one thought naturally of those living in the saturated regions, especially in Urundi, those in the Ngozi territory, and in Ruanda those on the central plateau in the Astrida and Nyanza territories. Thus the problem of the agrarian reform was found to be closely interwoven with that of the resettlement of certain populations. In fact, the questions which arose successively in connection with the attempt at agricultural modernization, proved that the native farming communities were not and could not be any less than an integral undertaking for the **development of rural communities**. As a matter of fact, besides the reform of farming methods, they involve the successive study of points such as fertilization, the development of fodder crops, mechanical plowing and spraying, improvement of pasture land, the building of better roads and houses, which are considered by the peasants as normally tied to their new state — it is interesting to note that this improved housing in Ruanda is commonly referred to as “*amajyambere*” which means “the things which are going forward”, progress — community life, social equipment (administrative offices, places where products may be purchased, medical and veterinary dispensaries, social centers, meeting rooms, etc.), economic promotion (increase in income, surplus production creating marketing problems, establishment of cooperatives, etc.), the differentiation in activities (birth and development of handicrafts, of trade, of small industry). One may observe to what extent the evolution of the conception conforms to modern theories of global action and the education of the masses.

121. — One of the first results of the policy of setting up native farming communities, and probably one of the most appreciated by the

beneficiaries, has been the stabilization of the peasant on his very own land. Among the main advantages which may already be credited to it are the following: soil conservation through the application of a rational crop rotation system combined in the mountains with an anti-erosion outline (alternate bands of cultivated and fallow land marked off by anti-erosion hedges); the successful struggle against brush fires; the introduction of fodder land; the carrying on of yield tests; the phytosanitary control of plants and trees; the successful struggle against depredators. The wise lay-out of the parcels has already made it possible to apply collective agricultural mechanization: mechanical plowing, use of seeders, weeding hoes and ridging plows, mechanical pulverization and air spraying of insecticides and fungicides. Thanks to the systematic introduction of selected seeds and varieties and to the improvement in farming methods, the yield per acre has already been increased. Finally, the community farmer's income is much higher than that of the ordinary peasant; thus, the annual monetary income of the rice growers of the Rusizi plain varies between 12,000 and 16,000 francs, according to very modest estimates.

122. — Large-scale irrigation and drainage work has been successfully completed in the native farming communities of the Rusizi plain and is now going on elsewhere, especially in the Nyabarongo valley.

123. — Whereas the native farming communities concern most particularly virgin lands, or at least those not yet saturated, where it is possible to apply a relatively rigid system of agricultural planning, the experiment of the **pilot sectors** involves the zones oversaturated with people and cattle where, besides the specifically technical questions, one must resolve the difficult problems relative to human and pastoral occupation, social and political obligations and land policy.

124. — There are two pilot sectors, one situated in the heart of the plateau of Ruanda (in the Nyanza territory) and the other in Urundi, on the border of the agricultural lands of the center and of the large Butusi pastures. In order to facilitate the indispensable studies, areas near the INEAC stations of Nyamiyaga-Songa (Ruanda) and Ruvyironza (1) (Urundi) were chosen.

125. — On the basis of cartographic, cadastral, historical, political and economic studies, the government has just successfully completed, in both sectors, the first attempts at regrouping land holdings, in order to give each family a plot, the area of which is equal to at least the vital minimum fixed by INEAC research and not smaller than that of the original holding. The aim of this regrouping is an agrarian reform based on the principles applied in the native farming communities.

126. — The government then plans to tackle the reorganization of the predominantly pastoral hills in which the main problem to be resolved

(1) The common spelling is Luvironza.

is the one arising from the survival of large pastoral domains held by the stock-breeders.

127. — The personnel of the pilot sectors includes a veterinarian, agronomists and zootechnicians, under the guidance of a territorial civil servant; it profits from the advice of government services and of INEAC. Its essential mission is to observe and study, to obtain the collaboration and win the confidence of the people; all its decisions are subject to the previous agreement of those concerned.

128. — The work carried on in the native farming communities and pilot sectors would be impossible without constant collaboration between the government services and INEAC. This Institute has contributed to their development through the previous observations and studies made in the pilot native farming communities.

Occupation of the land (in square miles).

A. - Land occupied by natives	}	Crop land	5,428
		Pasture land	7,927
		Afforested land	184
B. - Land used for various purposes	}	Cities, settlements. - Roads	—
		Airports. - Experiment stations. - Religious missions	77
C. - Government		Afforested lands	7
D. - Land occupied by non-natives	}	Crop land	27
		Mining terrain	33
		Pasture land	10
		Afforested land	13
E. - Unoccupied areas . .	}	Arable land (fallow land)	1,527
		Natural forests	598
		Reserves and parks	1,091
		Areas unsuitable for farming. . . .	2,595
		Lakes	1,398

Agricultural production (1958) (1).

Type of crop	Area in acres	Production in tons	Value in Congolese francs
a) Food and market gardening crops grown by non-native concerns :			
Food crops	1,606	2,508	5,6880,00
Vegetables	86	77	3500,00
Fruits	333	149	1,3500,00
Totals	2,025	2,734	7,388,000
b) Industrial crops grown by natives :			
Arabica coffee :			
1) in full yield (production of parchment coffee)	67,272	27,616	550,666,000
2) not yet productive	33,267	—	—
Robusta coffee :			
1) in full yield (production of marketable coffee)	173	66	150,000
2) not yet productive	452	—	—
Cotton (production of cotton seeds)	17,502	6,632	44,614,000
Elaeis palm trees (scattered plants)	18,270	—	—
Palm oil	—	1,252	11,350,000
Palm kernels	—	198	270,000
Pimento (scattered plants, area not estimable)	—	85	1,007,500
Pyrethrum (production of the Kinigi régie)	593	272	8,604,000
Cinchona	502	—	—
Castor oil (scattered plants)	15,617	1,358	3,080,000
Tobacco (scattered plants)	5,520	2,038	110,940,000
Wax (scattered hives)	—	28	625,000
Totals	159,110	39,545	731,306,500
c) Industrial crops grown by non-native concerns :			
Arabica coffee (production of marketable coffee)	1,134	243	7,735,000
Arabica coffee (not yet productive)	415	—	—
Robusta coffee (production of marketable coffee)	1,315	210	4,775,000
Robusta coffee (not yet productive)	462	—	—
Rose geranium (essential oil)	284	0.6	600,000
Elaeis palm trees	—	79	864,000
Palm oil	—	79	864,000
Palm kernels	—	6	15,000
Pyrethrum	2,216	575	18,792,000
Cinchona	734	120	1,090,000
Sisal hemp	395	—	—
Tea (about 450 acres of young plantations)	680	105	3,610,000
Miscellaneous crops	1,483	—	P.m.
Totals	9,699	1,340	37,481,000

(1) It is not possible to supply valid statistics relative to the food crops grown by the natives.

Progress made in the struggle against erosion as of December 31, 1958.

Ditches and hedges . . . 439,174 miles kept in good condition.
1,338,882 acres protected.
Ditches without hedges. 40,862 miles — 267,392 acres.
Hedges without ditches. 18,958 miles — 43,821 acres.

Personnel of the Agricultural Service.

Agronomical engineers 21
Agronomists 13
Associate agronomists 147
Agricultural auxiliaries 45 (1)

Statistics relative to the native farming communities (1958).

Territory	Natural region	Name of the native farming community	Inauguration date	Area per lot (acres)	Plots occupied as of 31-12-1958
1. Shangugu	Imbo	Rubyiro or Nyabitare	1956	10	478
2. Kibungu	Buganza	Ntete (mixed-farming)	1951	14	95
3. Kigali	Bugesera	Nyabarongo-Gahanga	1953	9	285
4. Nyanza	Bugesera	Ntyazo	1953	5	1,068
5. »	»	Muhero (Inéac pilot community)	1953	5	
6. »	»	Sogwe	1953	6	50
7. Astrida	»	Gakoma-Mbogo	1953	5	848
8. »	»	Rukana	1958	10	312
9. Bubanza	Imbo	N. Mparambo-Cibitoke	1949	»	869
10. »	»	Rusoro	1956	»	100
11. »	»	Murambi	»	»	64
12. »	»	Ruhagarika	»	»	130
13. »	»	Bumbiri-Kasenyi	»	»	856
14. »	»	Kundava	1957	»	453
15. »	»	Kagari	»	»	328
16. »	»	G. Basse Rusizi	1949	»	2,114
17. »	»	»	1951-1953	»	2,114
18. »	»	Nyamabere	1951	»	524
19. Usumbura	»	Kirekura	1951-1952	»	283
20. »	»	Muramvya	1952-1953	»	431
21. »	»	Rukaramu	1954	»	415
22. »	»	Gatumba	1955	»	541
23. »	»	Mubone (rice growing community)	1953	8	633
24. Rutana	Moso-Buragane	Musasa (Inéac pilot community)	1955	8	26
25. »	»	Musasa-Muyovozi	1956	8	
26. Ruyigi	»	Kinyinya	1954	8	398
27. Ngozi	»	Ruhororo	1957	5	492
Total . .				12,100	307

N. B. — The native builds his hut and outbuildings on his residential plot. There he also plants a few fruit trees and grows whatever he wants, whenever he wants and however he wants. The soil of this plot, fertilized by household waste, is easily kept fertile.

(1) This does not include the agricultural monitors of the government, the chieftaincies and of the OCIRU; their number reaches more than 1,200.

" L'INSTITUT NATIONAL POUR L'ETUDE AGRONOMIQUE DU CONGO " (INEAC) (1)

(THE NATIONAL INSTITUTE FOR THE AGRONOMICAL STUDY OF THE CONGO)

129. — The " Institut National pour l'Etude Agronomique du Congo " (INEAC), founded in order to promote the scientific development of Congolese agriculture, directs the agricultural establishments entrusted to it by the Minister of African Affairs, organizes agronomical study missions, trains experts and specialists and carries on research in accordance with its purpose. Thus its activity is carried on in the field of basic research, whereas the administrative services are more concerned with spreading information relative to the results of research and carrying on agricultural campaigns. The application of the results obtained through research is done through permanent collaboration, on every level, between the Agricultural Service and INEAC and with the direct help of those concerned.

130. — There is an INEAC station in each of the important ecological milieus of the Congo and Ruanda-Urundi. Its network of research stations, experimental plantations and test centers is completed by an imposing number of local adaptation stations of the Agricultural Service over which the Institute has the technical control.

131. — It was in 1952 that the Institute was entrusted with an important mission within the framework of the Ten-Year Plan in Ruanda-Urundi. This mission extended and prolonged the work that had been carried on for several years by the Agricultural Service at first, and by INEAC later, but with means too often limited. The objectives assigned to the INEAC sector of Ruanda-Urundi, with its regional center in Usumbura, concern the agricultural, pastoral and forest activities of the population.

132. — The agronomical research station of **Rubona** (Astrida) deals with the agricultural problems which arise in the average altitude zones (4,920 to 6,230 feet), the most numerous in the country. The Astrida Arboretum and the Nyamiyaga-Songa stock-breeding farm are annexed to this station.

133. — The high-altitude test station in **Gisozi** (Muramvya territory) deals with cereals, vegetables and tubers in zones more than 6,230 feet above sea level and the rationalization of agricultural speculation in these often poor and abandoned regions.

(1) Excerpt from " INEAC au service du Ruanda-Urundi ". Mimeographed note of the INEAC sector of Ruanda-Urundi, 1957.

134. — A high-altitude experimental center has just been set up in **Rwerere** (Ruhengeri territory); it will extend and complement in these regions, the work already begun in Gisozi. It directs its efforts toward the intensification of farming in the mountainous and densely populated zones of Ruanda.

135. — A zootechnical center set up in **Ruvyirona**, in the Kitega territory, studies stock-breeding problems arising in the elevated zones having meager grazing land and limited resources.

136. — Since 1953 a planning center has been operating in **Musasa** (Moso); its aim is to develop the eastern savannas which are sparsely populated but where special agricultural and stock-breeding problems must be solved. All the possible means of improving the living conditions of the inhabitants there and the manner in which immigrants from densely populated chieftaincies may be attracted are being studied.

137. — A planning center will also be opened in **Bugesera** with a program similar to that of the Moso center.

138. — Finally, the **Lubarika** station (Congo) handles the problems of the cotton and rice zones of the Rusizi plain for both Urundi and Kivu.

139. — The role of the Regional Direction is to supervise the activity of the Institute's stations and centers in the Territory, to coordinate the activity of INEAC with that of the government services and to spread the results of scientific research among the inhabitants.

140. — At present, INEAC has at its disposal three main means of spreading and teaching the results and conclusions of its tests:

— Contacts with governmental and native authorities;

— The local adaptation stations (SAL) of the Agriculture Service and the reproduction centers, the programs of which are planned and supervised by INEAC, and which make it possible to spread the plants selected by INEAC among the native farmers;

— Finally the pilot native farming communities and their extensions, the best example of which is the one in Muhero-Ntyazo.

" L'OFFICE DES CAFES INDIGENES DU RUANDA-URUNDI "
(OCIRU)
(THE OFFICE OF NATIVE COFFEE OF RUANDA-URUNDI)

141. — In 1945, the government set up an office called OCIRU ("Office des Cafés Indigènes du Ruanda-Urundi") for the purpose of promoting the growth and trade of the Arabica coffee of the native plantations and especially to help and to improve the production, processing and conditioning of this product. This Office, which collaborates closely with the Agricultural Service and INEAC, achieves its aims thanks

to propaganda teams made up essentially of agronomical technicians aided by native monitors who work among the natives and strive to inculcate them with the most rational farming methods. The Office encourages the fight against the insects harmful to the coffee crop, supplies selected seed to the chieftaincies and increases the number of mechanical pulping stations among the natives.

142. — The coffee is sorted by the Office according to specific types. Each lot of coffee, after having been minutely examined, is classified as one of the official types. The result of this examination is recorded on a certificate of quality issued in support of the export licence authorizing the export of the coffee. This certificate gives a description of the coffee in the green and roasted state and describes its liquor.

143. — The results of this method of evaluation have made it possible for the OCIRU coffees to win an enviable position on world markets and principally on the market of the United States which is their main buyer. The evaluation of each lot of coffee has served as a stimulus for the improvement of the coffee processing in order to obtain a higher quotation. On the other hand, the sales on standard types make possible, by their precision, the sale of the product at a much higher rate than when the sales take place on a single quality.

144. — A reserve fund, called "**Fonds d'Equalisation**" (Equalization Fund) was set up in 1946. Its main aim is to regularize the purchase price of parchment coffee from the natives in the event of a big drop in the world markets. It is fed by the payment of a tax which, during the 1956-57 campaign, was 5.03 francs per kilogram of exported marketable coffee. Three francs of this tax was paid to the fund, the difference representing the remuneratory tax intended to cover office expenses, as well as the cost of propaganda in promotion of the coffee crop.

145. — The interest accrued by the **Equalization Fund** may be used for technical assistance programs such as the free supply of elementary tools (saws, pruning shears, drying trays) or the financing of certain studies undertaken in order to improve farming methods (use of chemical fertilizers, intensive struggle against natural depredators and coffee tree diseases, etc.).

146. — OCIRU collaborates with the other offices of the former Belgian Congo in the publicity campaign to promote coffee in general and the coffee products of Ruanda-Urundi and the Congo in particular.

FORESTS

147. — The remains of the great forests which formerly covered the country now stretch over only some 383,000 acres. Present-day forests are

on the Congo-Nile ridge (Kibira), the volcano masses (King Albert National Park) and Wahu Island (Lake Kivu) and the three masses of Bururi, Kigwena and the Kisenyi territory.

148. — From the very beginning of the Belgian mandate of the Territory, measures were taken to protect the forests against the depredations of populations in search of crop lands. The bits of forests that were left were protected by administrative measures taken in 1933, which established the forest reserve of the Congo-Nile divide and that of the volcano masses.

149. — In these reserves, forestry, although not prohibited, is subject to very rigid control. The natives' hunting and gathering rights and their need for wood have been respected. The very low productivity of these forests, their heterogeneity, their localization, the exploitation difficulties due to the irregularity of the relief and the lack of approach roads have, until now, made it impossible for these forests to satisfy the country's need for wood.

150. — Various prospection studies as well as reforestation work have been carried on. By the end of 1956, this latter activity had embraced an area of 2,967 acres, that is, 1,527 acres, by clearing and 1,440 acres by cross-ride or plateau planting of native species. Before undertaking large-scale development of the mountain forests, the Forest Service deems it indispensable to study the behaviour of the species planted earlier.

151. — The wooded and bushy **savannas** are found mainly east of the thirtieth degree and are very heterogeneous. They have a very low rate of productivity and serve only as a local fuel supply. The government is now studying the possibility of protecting these trees from the destructive action of men and fire. Various work has been undertaken in order to reconstitute the forest.

152. — The small amount of woods and forests in the Territory (hardly 3 %, and 6.5 % if one counts the savannas) made it urgently necessary to **plant trees** in order to fulfill the needs of the natives. The **collective afforestation** program, inaugurated in 1931, is being continued and must be continued for many years before these needs can be entirely satisfied; moreover, the demand for wood for heating and small building is increasing continually because of the growth in the population and the progressive improvement in the standard of living of the inhabitants. These plantations cover an area of some 118,608 acres.

Besides the collective afforestation, there are many small, **individual plantations** made spontaneously by farmers. They cover an area of more than 30,000 acres.

153. — It is also important to meet the need for wood of the large population centers as well as the mining and industrial centers. For

this reason, besides the collective afforestation program, and in accordance with the program of the Ten-Year Plan, the administration is carrying out so-called economic afforestation. By the end of 1958 these plantations covered an area of 3,251 acres. In addition 2,327 acres have been replanted with black wattle. Various experiments with shaded pastures have been carried out and the extension program is under study. Forestation by colonists, companies and missions covers 8,500 acres.

154. — Because of the small amount of ligneous material in the forests, the development difficulties and the enormous domestic needs of the population, one can say that no forest product plays an important role in the economy of the Territory. Nevertheless, a program to reforest greater areas with black wattle, in which the native districts are participating, is now under way.

155. — The reforestation of Ruanda-Urundi is a long-term project which must be carried on and accelerated. Its climatic and economic importance is not open to question.

HUNTING

156. — Except for the Twa, the natives show little interest in hunting, save for the big battues organized when there are brush fires. The gamey regions of the Territory are localized especially in northeast Ruanda and eastern Urundi, where there are vast wooded, bushy savannas. Everywhere, where the population is dense, there is practically no game, except for feathered game. In the mountain forest, the Twa, born hunters, continue their traditional hunting with poisoned arrows, nets and traps. Long ago, the Rusizi plain was full of game. At present, as a result of the settling of native farming communities and the continual extension of cultivated lands, the game has taken refuge in the foothills toward the mountain forest.

157. — The government has turned a vast portion of the Kibungu territory into a reserve which now constitutes the Kagera National Park. North of Ruanda, in the Kisenyi territory, the volcano mass is a part of King Albert National Park. In addition, since 1956, a Mutara Hunting Reserve has existed in the Byumba territory and on the boundary of the Kagera National Park; the various problems relative to fauna and flora are being studied in this Reserve. Hunting may be carried on only with a special permit and in accordance with very strict provisions.

158. — The water game season is closed from February 1 to June 15 every year. All other hunting, except that of noxious animals, is prohibited from May 1 to August 31.

159. — The game warden of Ruanda-Urundi, the honorary hunting lieutenants, the agents of the Agricultural Service, and the auxiliaries in charge of the protection of the flora and fauna are responsible for the enforcement of the ordinances. The Local Hunting Committee, presided over by the Governor, meets twice a year in order to examine and study the various problems within its jurisdiction.

FISHING

Lake Tanganyika.

160. — For a long time, the natives living on the banks of Lake Tanganyika have been fishing by means of spoon or landing nets; this method is founded on the attraction of a small pelagic fish, the *Stolothrissa tanganicae* (vernacular name: ndagara) to an artificial light. On a dark night, the natives would light wood or reed fires in the bows of their pirogues. The ndagara, attracted by the light, gathered under the fire and was captured by means of large spoon nets.

161. — In 1946-47, the first Belgian hydrobiological mission carried out important investigations on the fauna and the potential of the lake, and finally revealed its wealth, unsuspected until then. It was therefore decided to promote native fishing there. In 1952 a propaganda agent was appointed; he drew up a complete inventory of the fishermen and their traditional material and made known, in a concrete way, their many needs. The poor and mediocre quality of the native fishing tackle directed the campaign toward the acquisition of plentiful, cheap appropriate material, difficult to find locally. A Fishermen's Aid Fund was set up and fed by a loan from the Treasury of Urundi, then by a large subsidy from the Native Welfare Fund. In 1953-54, the propaganda began to bear fruit: nylon nets began to be used by the natives, bunches of reeds were gradually being replaced by lamps. The use of these lamps, which reduced fishing expenses by two-thirds, came into general use in 1955-56; small metal boats, replacing the pirogues carved from tree trunks, appeared; production statistics were drawn up. In fact, the new means made accessible to the natives made it possible for them to double their production: it went from between 1.3 to 1.6 tons of fresh fish per pirogue, per year, to an average of between 2.8 to 3.9 tons in 1955-1956.

162. — At the beginning of 1954, European industrial fisheries, using seines or tow nets, went into operation. From the very beginning, this industry met with sensational success which stimulated its rapid growth; there were two industrial units in 1954-55, six in 1956 and ten in 1957. Production per unit, per night, is about 1.6 to 2.8 tons of fresh fish, of which 60 to 70 % is ndagara and 30 to 40 % of lates and luciulates. In order to protect the economy of the native fishermen from the alarming growth of these industrial fisheries, the government has limited to

fourteen the number of these units authorized to fish in the northern waters of the lake.

163. — In the meantime, the Agricultural Service had worked out a new technique making it possible for the native fishermen to reach the semi-industrial stage. Fishing remains founded on the principle of the traditional attraction of the fish by light. The fires are placed at the ends of two parallel metal boats attached as a catamaran; a third motor boat tows them into the middle of the lake, where the fish are most plentiful. When the boats are in position and the fires lighted, the fishermen lower a deep, square dipping net to a depth of 100 to 130 feet. When the fish are concentrated enough, the net is hoisted out of the water and emptied with a spoon net. The average yield of the first catches was between 440 and 660 pounds of ndagara per night; these figures make it possible to predict that the annual production of a semi-industrial unit will be about 55 to 83 tons of fresh ndagara. The production possibilities of the fishermen have thus been multiplied tenfold. They will receive practical instruction in training centers.

164. — The following table gives an estimate of the production of the past few years:

Native fishing (ndagara).

1952 . . .	2,756 t.
1953 . . .	3,307 t.
1954 . . .	2,205 t.
1955 . . .	4,630 t.
1956 . . .	2,948 t. (poor year).
1957 . . .	5,583 t.
1958 . . .	7,359 t.

Fishing on a small scale.

1958: twenty-two units 30 t.

Industrial fishing by European concerns.

1954: one unit	172,627 kg. ndagara. 48,501 kg. lates and luciulates.
1955: two units	870,817 kg. ndagara. 191,800 kg. lates and luciulates.
1956: six units	2,551,518 kg. ndagara. 1,455,733 kg. lates and luciulates.
1957: nine units	2,876,055 kg. ndagara. 2,583,527 kg. lates and luciulates.
1958: eight units	2,521,513 kg. ndagara. 4,082,805 kg. lates and luciulates.

In the lakes of the interior.

165. — Fish is caught on a regular basis in the interior lakes. Colonists fish in Lakes Muhazi and Mugesera by means of dormant nets. An interchieftaincy body has the right to catch fish in Lake Ruhondo. The natives living on the shores of the interior lakes are seeking an ever-growing source of income from fishing. Fish, formerly taboo, is being eaten more and more by the natives. New lakes were stocked in 1956. The Agricultural Service is now carrying on an active campaign among the native fishermen and will provide them with adequate equipment. Finally, possibilities of setting up new interchieftaincy bodies for fishing in certain lakes are under study. In 1958, total production amounted to 2,083 tons of fresh fish.

Pisciculture among the natives.

166. — Aware that a greater consumption of fish would add protein to the native diet, the administration has also encouraged the improvement, spreading and development of pisciculture among the natives. The main hatcheries in Karusi (Urundi) and Kigembe (Ruanda) have continued their research in this field. The studies deal with the rational stocking and natural productivity of the lakes, nutrition tests and the profitability of pisciculture among the natives. Other more or less important centers for pisciculture carry on development and propaganda activities (Ruhengeri, Kibuye, Kibungu, Astrida, etc.).

167. — The waters of the Territory are generally rather poor. Pisciculture without artificial feeding is not very profitable. The results obtained in the few places where food was given to the fish proves that production can thus be remarkably increased without great expense.

168. — As of the end of 1958, the Territory had 846 ponds covering an area of 400 acres. In addition, individual ponds have begun to multiply: in 1958, 400 new ones were built, totaling an area of 9.30 acres.

NATIONAL PARKS

169. — The **Institute of National Parks of the Belgian Congo** ("Institut des Parcs Nationaux du Congo Belge" - IPNCB) was founded in 1934. Its aim was to assure the protection of the fauna and flora in the territories over which it had control, to encourage scientific research and to promote tourism inasmuch as it was compatible with the protection of nature. The vast areas devoted to its activity were set aside either as integral natural reserves or as annex territories.

170. — The southern part of the Mikenso sector of **King Albert National Park** is situated in Ruanda-Urundi. This reserve, which is in the north of Ruanda, in the Kisenyi and Ruhengeri territories, and closed to tourism, embraces the zone of the volcanoes; the border between the Congo and Ruanda-Urundi is marked from west to east by the

volcanic peaks of Karisimbi (14,786 ft.), Visoke (12,175 ft.) and Sabyinyo (12,053 ft.); from this last peak the border is shared with Uganda and goes through the peaks of Gahinga (11,400 ft.) and Muhabura (13,540 ft.). In order to climb these peaks, one must have the special authorization of the Board of Directors of the Institute which sits in Brussels. The sector of the volcanoes shelters mainly elephants, gorillas and chimpanzees.

171. — The **Kagera National Park**, situated in the northeast of Ruanda, is continuous with the Tanganyika Territory. In the southeast, it embraces an integral reserve of 444,780 acres and in the northwest an annex territory of about 172,970 acres. In the latter area, only fishing, hunting and wood-cutting are forbidden. The Kagera National Park is most interesting from the zoological point of view: among other animals, one finds the zebra, the roan antelope, the impala, the waterbuck and the oribi. Gabiro, residence of the curator is 280 miles from Usumbura via Astrida and Kigali. An itinerary laid out in the Park makes it possible to tour for about 60 miles within the reserve. There are also pavilions for tourist use. A hotel, built in 1958, is promoting the tourist development of the region.

RURAL ENGINEERING

172. — The overpopulation of Ruanda-Urundi, aggravated each year by the population boom, constitutes an element of general poverty and inexorable impoverishment of the land as long as its economy remains in its present form, that is, confined solely to an agricultural production of strict subsistence. Salvation can come only from two-fold action: the valorization of agriculture in the broadest sense of the word and industrialization. The large population of this country must become a labor force capable of producing, besides products for its own livelihood, goods for exportation. In order to attain this objective, new arable lands must be quickly developed.

173. — Independent of the classic measures discussed above, the aim of which is to improve farming methods, one must strive to create, everywhere where the natural conditions allow, new crop and stock-breeding lands, or to improve appreciably, through irrigation, the fertility of the land already under cultivation. This is the objective of the Rural Engineering Service, set up recently.

174. — The study and work undertaken by this Service embrace many branches of knowledge such as hydrology and hydraulics, geology, geomorphology, topography, pedology, agronomy, mechanics, etc. One of the most important aspects of its mission is the taming of water either to direct it to places where it is needed or in order to control the phreatic sheet of the lower regions which are entirely or periodically flooded.

175. — The distribution of water in Ruanda-Urundi is very irregular; in the densely-populated regions, water is practically non-existent on the hills of which only a small part could be irrigated. As a result, the greatest effort must be brought to bear in the low, sparsely populated regions where water accumulates, in order to master it and create a harmonious ensemble of crop land, fallow land and pasture.

176. — From the hydraulic point of view, the following distinction may be made:

- Small hydraulic work in the countless small marshes which are now cultivated during the dry season; the work consists of drainage and irrigation;

- Average hydraulic work in the larger marshes; the work is identical to that in the small marshes, but the size of the undertaking varies;

- General hydraulic improvement work in vast regions such as Bugesera and Mutara, the development of the immense valleys of the Nyabarongo, the Kanyaru and their tributaries.

177. — Most of the hydraulic programs necessitate a previous study of land use and soil value. The opportuneness of investing rural engineering in a particular place may be evaluated schematically as follows:

- Brief study and estimate of expenses of a site considered as worthy of development;

- Agronomical experiment in collaboration with the Agricultural Service;

- Study of rural economy in collaboration with the Economic Affairs Service;

- Political study in collaboration with the Native Affairs Service;

- New detailed study of the project in order to have precise figures on the cost of the undertaking;

- Final examination of the possibilities offered by the project in terms of the increase in national income.

178. — At present, certain regions of the Territory have been recognized as worthy of improvement by rural engineering. Initial funds for limited experiments have been obtained from the Native Welfare Fund.

179. — Among the rural engineering projects already under way, the development of a part of the Nyabarongo valley, near Kigali, of the Funda valley, near Kisenyi should be mentioned; and among the projects that will be shortly begun, the development of the Mayaga and the Bugesera, financed by the European Economic Community.

180. — The rural engineering corps will study the possibilities of mechanized farming and will act as an adviser in many fields. Let us mention the struggle against erosion, the fertilization of land, the construction of rural roads and buildings, the treatment of farm products and the organization of agriculture.

CHAPTER IV

CATTLE BREEDING

SUMMARY

Cattle and Pastoral Customs.

Veterinary and Cattle Breeding Services.

Health and Sanitation Operations.

Pastoral Problems at the Present Time.

Zooeconomic and Zootechnical Achievements.

Stock Breeding of Small Animals and Stock Breeding

by Non-Natives.

CATTLE AND PASTORAL CUSTOMS.

181. — The "bos africanus", or Sanga ox, long-horned zebu so often depicted in the rupestral drawings in the Hoggar region, is believed to be the result of the cross-breeding of long-horned, straight back Hamitic cattle and the "bos indicus" with its short horns and very marked fatty muscular hump, which was probably brought from Asia about 700 B.C. This thesis is upheld by the striking analogies between the modern type of bovine animals of Ruanda-Urundi, the India zebu, and those depicted in the bas-reliefs of the funeral monuments of ancient Egypt. Belonging to the zebu or pseudo-zebu group, the cattle developed — by adapting to environmental conditions — into two types: the long-horned type (inyambo) and the short-horned type (inkuku), the haphazard cross-breeding of which has produced a long series of intermediate types.

The Pastoral Economy.

182. — It is very probable that cattle was brought to Ruanda-Urundi by the Tutsi when they migrated. The most distant points where the Hamites, as a clearly marked race, settled are situated on both sides of Lake Victoria: in the east the Paleo-Hamitic peoples who have maintained a purely Hamitic language and the Nilo-Hamites including mainly the Masai, shepherds and nomads, whose migrations have literally pushed in a wedge among the agricultural populations of Kenya and the Tanganyika Territory; in the west, in Uganda and Ruanda-Urundi where, instead of driving back and fighting the planters as did the Masai, the Hima and the Tutsi overcame and subjugated them, superimposing on or integrating their pastoral economy into the primitive agricultural economy and adopting the Bantu language of the vanquished peoples.

183. — This interpenetration of ways of life did not take place everywhere. In the large grassy areas in northeastern Ruanda there are still groups of Hima shepherds who, remaining nomads (1), never settle down or offer any contract of bondage to the farmers, with whom they have but few relations. The Hima lives only for his herd and lives almost exclusively on milk and blood; he obtains the latter by inserting an arrow into the neck of his animals. "Should the grass wither, should the water dry up, should the calves become sickly and especially should a cow die of disease, the Hima, gathering up his few milk pitchers, his water gourds and his mats, leaves his field and wanders over endless stretches of savanna searching for a new spot where his herd will prosper." Caring for the cows is the prerogative of men only. Women and young girls prepare the milk, churn the butter, see to the pitchers or do basket work.

(1) R. de Wilde d'Estmael: "Les Derniers nomades du Ruanda". "Jeune Afrique", 1957, n° 24.

The shepherds of Bigogwe, who live in the forest reserve and on the slopes of the volcanos, in the extreme northern part of the Kisenyi and Ruhengeri territories, have similar habits and here one may observe the customs of the nomadic shepherds in their almost pure state. They do not build kraals, do not enter into bond service and were probably the earliest inhabitants of this forest region; they live in close symbiosis with their cattle and often commit suicide if the animals they love die accidentally.

184. — The life of the Tutsi shepherds is the result of a transformation of this nomadic culture on its contact with the peasant life of the Hutu farmers. They juxtaposed, then closely merged an absolutely different economy and way of life with this peasant culture, one founded on the breeding of long-horned cattle and the contemplation of large herds. They transferred to the cow their immense prestige of great lords scornful of manual labor and all plastic art, as well as their glory as conquerors. And, little by little, the cow became, both in their eyes and in those of the Hutu, the true living gold of the country; it became not only the prosaic source of milk or meat, but the very symbol of power and wealth. Until recent years, in Ruanda-Urundi, the cow was a real institution, the proof of the most varied contracts and the witness to many political and private relations.

185. — As among many shepherds of eastern Africa, the cow was believed to be mystically linked to man. Some time ago, there lived at the court of the Mwami of Ruanda a sacred bull, Rusanga, along with sacred cows; he was really the mystic double of the Mwami, his destiny was linked to the Mwami's, and he had to be replaced on the accession of a new king. In Urundi, the dead Mwami was rolled in a fine mat and sewed into the skin of a black bull. At the end of a mourning period, when the family had to be cleansed of the contamination caused by death, the cattle was led down to the river or the spring along with the men and was also washed. One could multiply these examples which seem to prove that, traditionally, large cattle are linked to humanity by a mystic tie which unites them in the same joys and sorrows.

186. — The natives' entire life was lived beneath the sign of the cow. On meeting, one person greeted another in Ruanda with the greeting "amashyo" (may you have herds) to which one replied with "amashongore" (I wish you herds of females). The day, certain lunar months and seasons were divided according to the activities of the cattle. The native languages contain hundreds of words designating the race, coat, age, sex and yield of the cattle. Each cow has its own name just as a human being; all its products and by-products are used by the native. The milk, preferably eaten curdled, and still often the blood, make up the shepherds' basic food; the skin was used as clothing for the poor and as a shroud for the Mwami; the butter, besides its use as food and in adornment, was used as a magic ointment for the purification of young couples and of the dead; the meat was, of course, a choice dish. Urine is used to wash one's

hands and to clean milk jugs; dung is used to fill in food baskets and was formerly used as fuel. The horns become receptacles for the charms and instruments of witchcraft; the tendons are used as arrow cords and the nerves as cords for musical instruments.

The cattle-leasing contract.

187. — But the importance of large cattle in native society is most evident in the basic institution constituted by the cattle-leasing contract, ubuhake in Ruanda, ubugabire in Urundi. The word "ubuhake" is related to the verb guhakwa which means to be commanded, to become someone's subject, to know how to serve, to have obligations to a patron. In fact, the cattle-leasing contract, through the holding of cattle, assured the client the protection and patronage of an important person.

188. — The ubuhake-ubugabire contract is not simply at the basis of the social organization of Ruanda and of Urundi; in the hands of the Tutsi, it has been the perfect tool for their domination. The pastoral hierarchy, as well as the land policy, is in fact copied from the political organization of the Tutsi conquest; it is this organization projected on and applied to goods, just as the land policy is this regime projected on to the land. Although native law recognized certain sporadic forms of individual appropriation of large cattle, all the cattle, as all the land of the country, belongs in principle to the Mwami who delegates his powers according to the native hierarchy. Thus all cattle patrons are tied to more important shepherds up to the highest level where they are the direct clients of the Mwami.

189. — One has wittily written that the ubuhake is the art of pleasing in order to receive. It is not a matter of a simple visit made in passing, but of many steps, gifts, a whole lifetime of servility. Time did not matter for future clients: the preparatory stage, the first courtship period which ended in the granting of the greatly-desired cow, could last from two to three years. During this trial period, the candidate had to be introduced to the master then, once in his company, he had to carry out tasks, to increase the number of gifts, to be ready at all times to take a personal share in any work, to multiply the external signs of servility and attachment.

190. — Once these efforts had been crowned by the granting of a cow, the duties of the beneficiary did not decrease at all: he had to continue his regular courtship, accompany his master on his trips, cultivate his fields, help to build his dwelling and his kraal, help watch over the enclosure at night, carry his patron's baggage, go on errands, help to guard the herds. In exchange and on the condition that he behaved as a good father, he could use the cattle which he had thus received as well as the new calves; his rights embraced the sale, the slaughter, the donation and the legacy of his cattle, and the consumption of its products; but the consent of the patron was required in case of sale. Finally and

most important: henceforth he had a protector, a master to whom he had recourse and who had to help him in the event of a law suit, or of any misfortunes or difficulties.

191. — If by chance the client has acquired a cow with his own money or in any other way which, theoretically, guaranteed him possession of it, he was not any less eager to have the protection of someone powerful, for the existence of an exclusive property was both inconceivable and precarious.

192. — In addition, the patron had the right to tax the client's cattle. In Urundi, this right was called the "kwokoza" and was applied to new calves born to the cattle granted; in Ruanda, the inspection of the cattle was called "umurundo"; during this review, the patron could choose an animal from among those presented. Formerly, a mere trifle, the least little oversight by a client in carrying out one of his duties or in bringing a gift, was pretext enough for the patron to break the contract to his advantage and take back all the cattle.

193. — When either the client or the patron died, the commitments devolved upon the respective heirs. When the dead client had no heirs, all the cattle was returned to the patron.

194. — The cattle-leasing contract bestowed on the cow an extrinsic value on which has been based, and is still based, in spite of the gradual evolution of thinking, its very important political and social role. The possession of many herds is a synonym of power, of authority over many clients and, consequently, of mastery over a docile and always available labor force. Economic motives mattered little in these speculations: what fascinated the Tutsi mind was the exchange (barter) value and social significance of the herd. Quantity was more important than quality; and the goal was reached, this goal evoked in Tutsi poetry: "...thou, cow, who spares me the shame and weariness of the hoe..."

195. — The abolition of the ubuhake-ubugabire contract thus constitutes one of the most important measures aiming at the liberation of the peasant from his customary servitude and dependence. This abolition, begun in Ruanda in 1954, is progressing normally; some two hundred thousand heads of cattle have been divided on the lower levels of the pastoral hierarchy, among patrons and clients, and twenty-one thousand contracts have been dissolved. According to the rules which were adopted, the client receives, as his very own, about two-thirds of the cattle thus divided up.

Cattle breeding practices.

196. — The Tutsi shepherds and their Hutu clients carry on cattle breeding according to ancestral methods in which the rite plays a very important role. In general, at night the shepherd puts his herd in a circular kraal ("rugo") which surrounds the hut. Only the young calves

are protected in a small hut which leans against the fence or in the guardian's or owner's own hut.

197. — At sunrise, a fire is built in the middle of the enclosure, the guardian prepares the cattle for milking, removes the ticks and rubs down the animals. The first milking begins. Then the herd is led out to pasture not to return to the enclosure until sunset for the evening milking. The milk is used either fresh or curdled. Butter is churned in large gourds and eaten rancid. It is the almost exclusive prerogative of the men to milk the cows and to watch over and care for the cattle.

198. — The cattle feeds almost exclusively on natural pasture sought by the seasonal moving of the herds and cleared by means of bush fires. During the dry season, the stock breeders accompany their herds to the low, humid and marshy regions. The lack of a rational plan in the use of pasture land and the native's carelessness in regard to its improvement, the too-low density of cattle in the rainy season and their too-high density in the dry season, combined with reckless bush fires, have a very harmful effect on the forage yield and give the impression that the pasture lands are extremely poor.

199. — With the exception of natural watering place such as lakes, rivers, streams and springs, most of the cattle must drink from the stagnant and muddy water of the marshes, dangerous source of disease. The cattle is usually watered once a day around noon.

200. — The castration of males not suited for reproduction, selection and zootechnical cross-breeding are unknown. Breeding is haphazard, the animals breed as they please. Cows bear their first calves when they are about four years old, and then about every eighteen to twenty-four months. The calves receive no special care : when they are between one and one and a half years old, they are incorporated into the herd.

201. — The environmental conditions, the method of cattle breeding and the precariousness of their diet give the cattle of Ruanda-Urundi a rustic and sober appearance, but one not lacking in zootechnical possibilities. The poor quality of the grazing lands, the periodic scarcities, the underfeeding of the calves, and various parasitic diseases are responsible for their lack of precocity and fecundity, for their low milk yield and for their mediocre fattening. The cattle-capital is dormant at the heart of a problem the solution of which could make it highly productive.

VETERINARY AND CATTLE BREEDING SERVICES

202. — Even in the early years of the Belgian mandate, the existence of a large number of cattle justified the creation of a service responsible for the organization, orientation and improvement of the stock. A report, made in 1919, contained the following information : " The number of bovine animals is estimated at a million heads in Ruanda alone. Few

cows calve before they are eight years old and few have more than five calves during their lifetime. The best milker does not give more than two liters of milk per day. Pigs are not raised by the natives. The country's only wealth lies in bovine hides and butter (samli) that is inedible." The bovine plague ravaged the country until 1921, year during which 120,000 animals were vaccinated.

203. — In 1920 the government hired three veterinarians and set up a laboratory of veterinary bacteriology in Kisenyi; this laboratory soon began to produce vaccines. Methodic disinfection of the cattle began. In 1921, five veterinarians and six associates made up the young Veterinary Service which was slowly being organized. In 1924, a cattle breeding station in Ntendezi (1) and a dairy in Usumbura were the first landmarks of zootechnical activity. From 1927 to 1933, the Service fought against the cattle plague, eliminated contagious pleuro-pneumonia and reduced anthrax affections.

204. — Then there were many other questions that had be resolved relative to the organization of personnel, the inauguration of veterinary instruction for natives (2), the multiplication of the number of agro-pastoral experiment stations (Nyamiyaga, Karusi, Gisozi, Ruvyironza), the improvement of veterinary legislation. The number of buildings grew : veterinary dispensaries, slaughter houses, vaccination kraals, quarantine posts, hangars for the drying of hides, watering places, dipping tanks, etc.

205. — In 1957, the stock breeding section which, until this time, had been part of the Veterinary Service, was divided into two subsections :

— One oriented toward the feeding of the cattle (improvement of grazing land, fodder crops, silos, fallow land, cattle density, agrostology) and directed by the Agricultural Service;

— The other oriented toward zootechny as such (cross breeding, castration, improvement of strains, reproduction of selected heads, reproduction stations, spreading of improved strains among the natives, cattle competitions) and directed by the Veterinary Service.

206. — By the end of 1958, the Veterinary Service as such included twenty veterinarians, twenty auxiliaries, seventy-one native veterinary assistants and guards officially employed as civil servants and two hundred eight-four veterinary microscopists and male nurses under contrat. This personnel was divided up among the veterinary services of the territory, sector and residence, the Astrida veterinary laboratory, the veterinary section of the " Groupe scolaire d'Astrida " and the Usumbura central service.

(1) The common spelling is Dendezi.

(2) The Veterinary Section of the " Groupe scolaire d'Astrida " was founded in 1938.

The personnel of the Stock Breeding Service, attached to the Agricultural Service, is included in the statistics of this service in the preceding chapter.

HEALTH AND SANITATION OPERATIONS

207. — The intensity of the health measures taken within the Territory (sanitation police, disease detection work, examination, treatment) and enforced on the border (health control of the import, export and transit of domestic animals), the collaboration of the veterinary services of neighboring countries, the control of animal products and commodities and the draining of various natural regions of the country have contributed to the improvement in the health of the herds and have helped to create a setting favorable to their development.

208. — The achievements of the government in this field are mainly:

- A veterinary laboratory for research, diagnosis and the manufacture of vaccines in Astrida; it has carried on studies on the strains of human and animal tuberculosis and on brucellosis; for anthrax affections alone, more than two million vaccinations were given in 1958;

- A Veterinary Section at the "Groupe scolaire d'Astrida", directed by two veterinarians. Every year, five or six pupils complete a six-year cycle of studies and are awarded the diploma of assistant veterinarian; they are immediately attached to the various services where they give effective help; seventy-one veterinary assistants and guards have been trained by this Section since its foundation;

- A school for veterinary male nurses (Astrida) opened its doors in 1960; it trains promising natives for the microscopist-male nurse teams;

- Sixty-three veterinary dispensaries directed by assistant veterinarians and providing polyclinical services for the natives;

- Forty-eight veterinary centers, each one including a dispensary, a hospitalization stable, a watering place, a dipping tank, a small slaughter house, a manure ditch, silos, a reproduction station, etc., and having both educational and sanitation objectives;

- Four quarantine posts located at cattle transit points between Ruanda-Urundi and its neighboring countries;

- About six hundred examination and vaccination kraals distributed at points throughout the country at convenient distances for the herds;

- Two hundred eighty-seven dipping tanks forming a network which will soon be completed by thirty more, thus constituting a firm basis for the rational improvement of the cattle.

209. — The Territory is divided up into sectors, each one directed by a veterinarian. Each sector includes, according to its size, one, two or three territories in which the veterinarian-sector head is assisted by European and African auxiliaries.

In each territory there are dispensaries equipped with all the materiel and products necessary in the treatment of cattle. Their sphere of activity is clearly defined; the cattle located within the given area is periodically examined at the dispensary and the sick animals undergo the necessary treatment there. Each dispensary is directed by an assistant veterinarian graduated from the "Groupe scolaire d'Astrida".

In the regions still lacking dispensaries there are temporary centers where the cattle is regularly examined and treated by itinerant teams, also led by assistant veterinarians, under the orders of the sector head and the veterinary auxiliary.

210. — At present and for more than ten years, one can say that the health of the cattle is more than satisfactory. Besides a few cases of bacterial and symptomatic anthrax, a few seasonal centers of foot and mouth disease along the eastern border, a few cases of brucellosis, of piroplasmosis and theileriosis, which are being rapidly and permanently conquered thanks to the extensive network of dipping tanks under construction, the only serious diseases remain the trypanosomiasis which have become much less important because of the resistance of the local cattle, the use of better trypanocides and especially because of improvement in cattle nutrition. The only economic handicaps remain cysticercosis and especially malnutrition.

211. — Thanks to the progressive growth of the staffs, to the rational organization of the Service and the amount of equipment and material at its disposal, health protection, mass examination and treatment is giving way to the veterinary hospital dealing with individual cases; zootechnical and zoeconomic problems may now be tackled by means of large-scale operations.

PASTORAL PROBLEMS AT THE PRESENT TIME

212. — With the continual and unavoidable growth of the areas under cultivation to the detriment of grazing land, not accompanied by the progressive development of the free regions, the pastoral burden has continued to increase. The loss of the dry-season grazing land (valleys and low regions which have been drained and opened to farming) forces the cattle to graze on the steep slopes of the hills where their excessive concentration causes real damage especially during the long months of drought. This unbalanced situation, caused by the constant and explosive growth of the population, and combined with the orographic, geological, climatic and other conditions, with the natives' stock breeding methods and practices and with the social role of the cattle makes one believe that "Ruanda-Urundi is a country over-burdened with cattle".

213. — The extremely complex problem of stock breeding may be expressed as follows: "Knowing that supernumerary cattle, belonging so to speak to everyone and to no one (cattle-leasing contract) and helping to

maintain in the existing social stratification (pastoral hierarchy), over-concentrated on grazing land (erosion) having no specific owner (land policy), bred and raised in a primitive manner (pastoral customs) giving little profit, and unable to balance the diet of the native population, represents, nevertheless, an enormous economic potential, how may this capital be made to bear fruit and to assure the country economic and social balance while respecting the need for soil conservation ? "

214. — Given the lack of a rational plan for the use of grazing land, the high density and rapid growth of the population, resulting in the progressive and unrelenting shrinking of vital pasture land, and finally the need to combat the deficiency in animal proteins in the natives' diet, the foremost objective of the breeding of bovines in Ruanda-Urundi will be the production of milk and meat within the framework of the small agro-pastoral farm (mixed farming). The use of animals for pulling on the rather large mixed farms will be considered. Manure will be produced and used on the mixed farms as well as on the purely pastoral ones and will contribute to the improvement of pastures and poor lands.

215. — The following lessons are to be learned from the above principles :

— The need to decrease the movement of cattle and to bring about a stable agro-pastoral economy;

— The need to enrich non-productive land along with the progressive improvement, both qualitative and quantitative, of grazing land, lined with fodder crops within the framework of the mixed farm (farming helps stock breeding with fodder crops, stock breeding helps farming with manure);

— The need to distribute the cattle to allow for rational stock breeding;

— The need for a solution to the land policy regarding pastures : the native will not take a real economic interest in his cattle until he becomes the unquestionable owner of the land and of the animals;

— The need for an educational campaign which will transform the nomadic shepherd into a stable stock breeder and cow-capital into cow income;

— In conclusion, the need for simultaneous action on the man (education), on the environment (improvement of pasture land, fodder crops) and on the animal (diet, health, selection).

ZOOECONOMIC AND ZOOTECHNICAL ACHIEVEMENTS

216. — The action of the Veterinary Service in the zooeconomic field deals with the setting up, inspection and control of slaughter houses, cattle markets, hangars for drying hides, dairies, and centers for the training of draft oxen.

217. — In this field, the following achievements have been made :

— 12 slaughter houses, 21 small slaughter houses and 21 slaughtering

areas. A modern slaughter house has been built and is now operating in Astrida. Two large slaughter houses, one in Usumbura and the other in Kitega, were built in 1959, and two others, in Nyanza and Kigali, are planned for 1960. Wherever possible, all these slaughter houses will be equipped with refrigeration the purpose of which is two-fold : to valorize the improved strains of cattle and to sterilize the meat;

— 140 hangars for the drying of hides, of which 115 are built of durable material;

— 1,500 annually controlled cattle markets in 29 points throughout the country.

218. — In the zootechnical field :

— Five stations for the reproduction of selected cattle have been or are being set up in Randa (Bubanza), Keru (Nyanza), Nyagatare (Byumba), Rubirizi (Kigali) and Mukingo (Ruhengeri); they are managed by stock breeding agents and operate in close cooperation with the zootechnical research stations of INEAC in Ruvironza (Kitega) and Nyamiyaga (Nyanza);

— The castration of males not suited for reproduction, the selection and branding of good sires; distribution of reproductive females among the natives;

— More than fifty reproduction posts, supplied with sires furnished by INEAC, operate throughout the country;

— Eighteen cattle competitions took place in the various territories in 1958.

219. — Pastoral education has been carried on by creating veterinary centers, pilot farms, small pastoral farms, thus setting an example indispensable for the persuasion and technical training of the natives. Progressive stock breeders are most interested in this. Circulars distributed on a large scale among the natives discuss, in a manner understandable by all, problems such as the improvement of cattle strains, the fight to stamp out cysticercosis, fodder crops, the usefulness of dipping tanks.

220. — The enrichment of grazing land is being carefully studied by INEAC, the Veterinary Service and the Stock Breeding Service. Experiments have been carried on, on hillsides and low ground, in an attempt to create paddocks which would make it possible for the cattle to feed on natural grasses for an entire year without either an increase in food or supplementary work. Other experiments aim at keeping cattle with a fixed weight on an area to be determined by guaranteeing it an optimum increase in weight by means of a contribution of a certain amount of fodder during the dry period and without any drop in the quality of the soil. These experiments have proved beyond doubt that paddocking is superior as far as the regeneration of grazing land is concerned; they have shown that organized rotation makes it possible to keep 1.15 head of cattle on two and a half acres of land for a whole year.

221. — Centers for the adaptation and reproduction of fodder crops have been set up; they will make it possible to distribute plants and seeds to stock breeders. A certain number of stock breeders have already planted fields of fodder crops for the feeding of their cattle during the dry season. In the stock breeding stations and in various places throughout the country, experiments are being carried on for the storing of fodder in natural silos. These shelters are cheap and within the farmers' means.

222. — The system of ibikingi (pastoral domains leased to big stock breeders by the political power) constitutes, after the cattle-leasing contract, a second important obstacle in the path of pastoral reform. Traditionally, the small stock breeder has neither cattle nor grazing land. The grass was lent to him as was the cow and for the same fees, and the possession of the cow is of no use to him if his patron applies the traditional duties to the use of the grass. Thus, a radical change in the pasture system is indispensable if true stock breeding is to be carried on.

STOCK BREEDING OF SMALL ANIMALS AND STOCK BREEDING BY NON-NATIVES

223. — Goats are raised on a large-scale and are a very important resource for the Hutu who have, so to speak, a monopoly over this activity. (A small number of goats are raised by the Twa.)

The race of sheep is small and sheep raising is much less common than goat raising.

The native race of pigs, often black-skinned, resembles the common European pig. Pig breeding is carried on especially in the Astrida, Nyanza and Ruhengeri territories. It is almost non-existent in Urundi.

224. — Non-native stock breeding is in the hands of colonists or missions. Besides a small number of European bovines, raised to provide milk for those living in the centers, non-natives raise the local race of cattle, some in order to provide meat for consumption, others in order to obtain milk, butter and meat and also for the production of manure for use on plantations.

These cattle are less numerous: 2,959 bovines, 738 goats and sheep, 1,490 pigs, 52 horses, 59 asses and 2 mules (1).

Distribution of cattle by territory (1958).

Territories	Bovines	Goats	Sheep	Pigs
Astrida	102,557	101,300	19,675	27,337
Biumba	67,753	216,324	122,936	1,242
Kibungu	63,312	90,350	9,715	637
Kibuye	33,130	53,533	9,331	1,767
Kigali	92,126	106,360	27,438	1,587
Kisenyi	28,802	109,663	29,636	4,986
Nyanza	154,184	207,706	13,014	17,005
Ruhengeri	34,326	127,660	86,101	1,666
Shangugu	16,415	69,864	6,029	1,154
RUANDA	592,605	1,082,760	323,875	57,381
Bubanza	27,535	81,590	33,797	250
Bururi	82,216	101,478	51,499	9
Kitega	87,039	118,606	38,514	193
Muhinga	37,217	66,480	26,732	147
Muramvya	64,278	75,178	26,949	710
Ngozi	51,121	172,401	42,009	1,173
Rutana	26,276	40,112	13,123	4
Ruyigi	37,629	48,105	11,658	22
Usumbura	2,136	5,549	2,057	26
URUNDI	415,447	709,499	246,338	2,534
RUANDA-URUNDI	1,008,052	1,792,259	570,213	59,915
Year 1957	966,443	1,698,412	531,317	53,456
" 1956	930,024	1,572,972	524,544	61,483
" 1955	906,617	1,465,298	409,158	57,537
" 1954	948,062	1,378,520	414,496	55,501
" 1953	937,431	1,266,034	390,774	55,987
" 1952	900,263	1,266,034	400,299	34,588
" 1951	972,090	1,204,308	384,808	31,327
" 1950	985,110	1,362,236	430,330	42,152
" 1949	973,658	1,255,134	414,047	35,073

(1) All the information concerning cattle, stock breeding practices, the present-day evolution of pastoral problems, contained in this chapter has been taken, for the most part, from the "Monographie pastorale du Ruanda-Urundi", by Dr. Adamantidis, Publication of the Ministry for the Belgian Congo and Ruanda-Urundi, Brussels, 1956.

Animal production (1958).

A. — Cattle slaughtered.

Cattle	Number of heads slaughtered	Live weight per unit in pounds	Total live weight in pounds	Yield	Pounds slaughtered
Bovines . .	54,320	551	29,938,468	45 %	13,472,311
Sheep . . .	185,987	88	16,401,078	55 %	9,020,593
Goats . . .	—	—	—	—	—
Pigs	5,689	110	627,098	60 %	376,259

B. — Milk sold by the natives.

For dairies	1,071,321 quarts.
For consumption	308,556 quarts.
	<u>1,379,877 quarts (1).</u>

C. — Butter. — Production.

European dairies 78,499 pounds.

D. — Hides exported.

	Units	Pounds
Bovines	105,332	1,555,189
Goats	453,996	478,952
Sheep	61,300	79,363

CHAPTER V

THE “ COLONAT ”

SUMMARY

The “ Colonat ” : Definition and Categories.
The Role of the “ Colonat ”.
The Future of the “ Colonat ”.
Colonists' Associations and Loan-Making Organizations.

(1) This total represents but a tiny portion of the milk production, the major part being consumed by the population. Production may be estimated at some 50,721,600 quarts.

THE ROLE OF THE "COLONAT"

The role of the "colonat" is social, educational and economic.

THE "COLONAT": DEFINITION AND CATEGORIES

225. — The term "colonat" includes that fraction of the non-native population that has permanently settled down in the country to practice any profession, or work at any trade on their own account. The salaries and profits of these settlers contribute to the local economy. In the same way, there is a tendency to consider the completely independent natives as related to the "colonat" and forming the "middle classes". Among these are grouped mainly manufacturers and artisans (transportation, brick manufacturing, building, etc.).

226. — The "colonat" may be divided into a few categories, according to occupation:

- Agriculture and stock-breeding;
- Manufacturing and handicrafts;
- Trade;
- Liberal professions and persons living on income from capital.

227. — The relative importance of these categories is determined by the special conditions of the Territory. Contrary to what happened in the former Belgian Congo, the possibilities of agricultural settlement are very limited because of overpopulation and the very restrictive land policy which is a result of this situation. The same is true for stock-breeding because of the density of cattle which is already a problem for the native stock breeders. Forest exploitation is excluded because there are few forests. On the other hand, as the standard of living of the natives rises, other categories grow, most of which still lack capital, initiative and the knowledge required for the creation and organization of large and enduring businesses.

228. — The expansion of the "colonat" during the past few years is adequately reflected by the following table:

	1949	1958
Tradesmen	139	704
Manufacturers	109	180
Planters, farmers	67	59
Artisans	57	182
Liberal professions	27	93
	<hr/> 399	<hr/> 1,218

It is to be noted that, as far as non-agricultural activities are concerned, Usumbura alone groups almost half the colonists (550).

229. — Inasmuch as the result of colonization is to give land to non natives or to approve concessions for the development of natural resources, the government is cautious in giving the approval or authorizations solicited for this purpose. The government feels that the settlement of colonists in the Territory can be approved only in so far as it contributes either to the progress brought about by their activity in the field of individual or collective improvement or to the development of natural resources which the natives, lacking capital or skill, are still unable to handle themselves and which provides the Territory with the financial resources that it needs.

230. — The agricultural colonists, most of whom are scattered far from the big centers, often settle in sparsely populated regions: these colonists attract people to these regions and thus alleviate, to some degree, the pressure in the oversaturated zones. One may point out several areas in the east which became thus repopulated thanks to the first nuclei of dwellings which grew up around isolated concessions. The agricultural colonists, living in permanent and direct contact with the natives of the customary milieu, fulfill an important educational task. Their workers, besides the additional resources which they draw from their work, learn about sanitation, orderliness and regularity in their work and, following the colonists' example, employ better working and farming methods; they are thus able to spread these notions and knowledge in their traditional milieu.

231. — From the economic point of view, the presence of the "colonat" is also important, for it produces mainly for export (pyrethrum, coffee, essences, etc.). Certain colonists process, sometimes to order for the customer, the raw products of native farming. Finally, they develop natural resources such as lime, ashlar, etc.

Mining colonists play about the same role, but their workers are more skilled and receive higher salaries than those employed on farms and plantations, almost all of which are marginal because of mechanization difficulties and distance from the oceans.

All these activities increase the national revenue considerably and make possible the growing importation of more and more varied consumers' goods.

232. — Industrial and handicraft establishments in the centers, especially Usumbura, are beginning to offer competition to imported articles, by processing local raw materials, providing supplies and making repairs. They have helped to create a force of more or less skilled employees and workers, with a rather high buying power, who are big consumers of food and other local or imported consumers' goods.

233. — Finally, the commercial "colonat" is expanding in the centers, mainly in Usumbura, where it is becoming more and more specialized in order to compete with the large department stores. Thus, it too contributes to the creation of a more autonomous domestic market, whose activities will increase gradually thanks to the sale of more varied items and to the growth in consumer purchasing power.

THE FUTURE OF THE "COLONAT"

The Ten Year Plan has outlined a very precise, but flexible, program for the "colonat".

234. — In the field of **agriculture**, the granting of few agricultural and mixed concessions, wisely distributed and limited in area (a maximum of from 125 to 500 acres, according to whether they are in populated or deserted regions), is dependent on the availability of land free from farming rights and within the program for the intensive development of the country. Only strictly forest lands are not subject to restrictions. In fact, the future of the purely agricultural settlers will depend on the cost price of their crops and the world market for their products.

235. — In the field of **mining**, the possibilities are very limited and subject to the results of the prospecting programs. The expansion of companies in this category will depend mainly on the existence of cheap electric power and world prices for ores.

236. — A vast field of activity is offered to the **manufacturing colonist** because of the existence of a superabundant population representing exceptional labor potential on the one hand and consumer potential on the other hand. Manufacturing will benefit from the achievements of the Ten Year Plan in the fields of production and public equipment. Agricultural industries will doubtless become numerically preponderant. The Ten Year Plan advocates a combined solution, the agricultural colonist processing his own products as well as those of the population around him. The number of colonists who simply process crops will probably remain very low, taking into account the risks of investment in the absence of guarantees concerning the purchase of raw materials. More cooperatives are springing up; they have a tendency to process their own crops. A certain number of local colonists have, moreover, found interesting positions in the cooperatives and the fact that these organizations often have recourse to their knowledge bears witness to the confidence enjoyed by many of these colonists.

237. — The expansion of **trade**, outside the large centers, will depend on the increase in the income of the population. The colonists who are tradesmen will have to face the expansion of native trade; in this field, they will be able to fulfill a useful role as educators while remaining suppliers of consumers' goods and buyers of native products.

238. — As for the **liberal professions** (medicine, dentistry, law, etc.), as native income grows and activities become diversified and specialized, the Territory will necessarily need more and more architects, lawyers, businessmen, doctors, dentists, etc. The fact that the number of colonists exercising liberal professions has tripled in six years is a favorable sign of the country's development.

COLONISTS' ASSOCIATIONS AND LOAN-MAKING ORGANIZATIONS

239. — The "**Union Eurafricaine du Ruanda-Urundi**" (previously the "**Union des Colons du Ruanda-Urundi**") is an "association de personnes et de sociétés de personnes" the aim of which is to study and defend the moral and material interests of persons who normally exercise a professional activity for their own account in Ruanda-Urundi and who adhere to the values and ideals of western civilization.

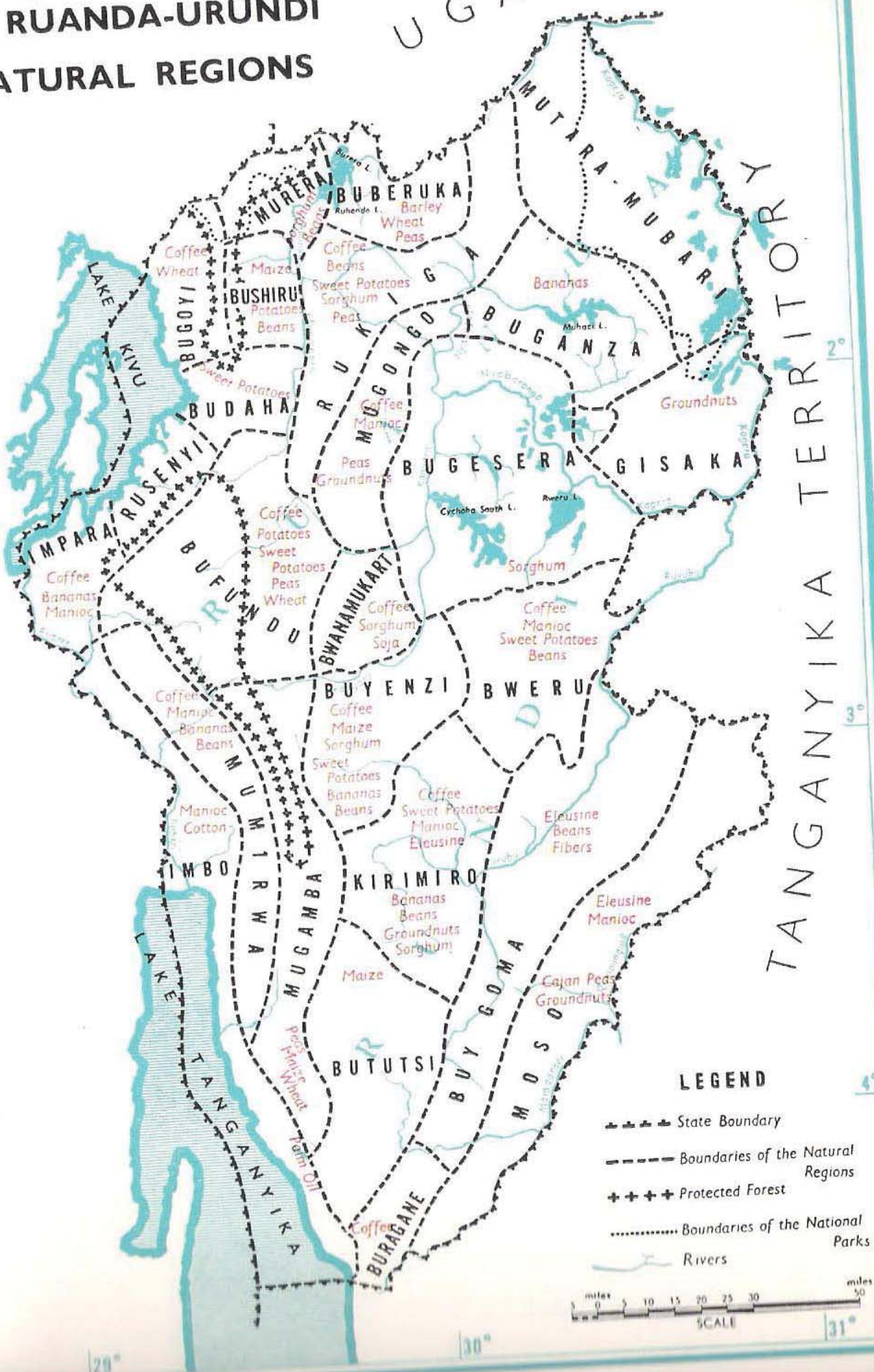
It has over three hundred members of European origin, belonging to about ten different nationalities, as well as several members of African origin; the association groups about twenty professions: tradesmen, manufacturers, artisans, shippers, garage proprietors, employees, business agents, bookkeepers, etc. It sometimes also groups, as sympathizers, certain European inhabitants of Ruanda-Urundi belonging to other categories of the population.

The general assembly, held once a year, plans the activity and draws up the program of the Union. This meeting is directed by a Committee made up of a president, two vice-presidents and at least three members, elected by means of a direct, secret vote. The activity of the Union is both professional and political.

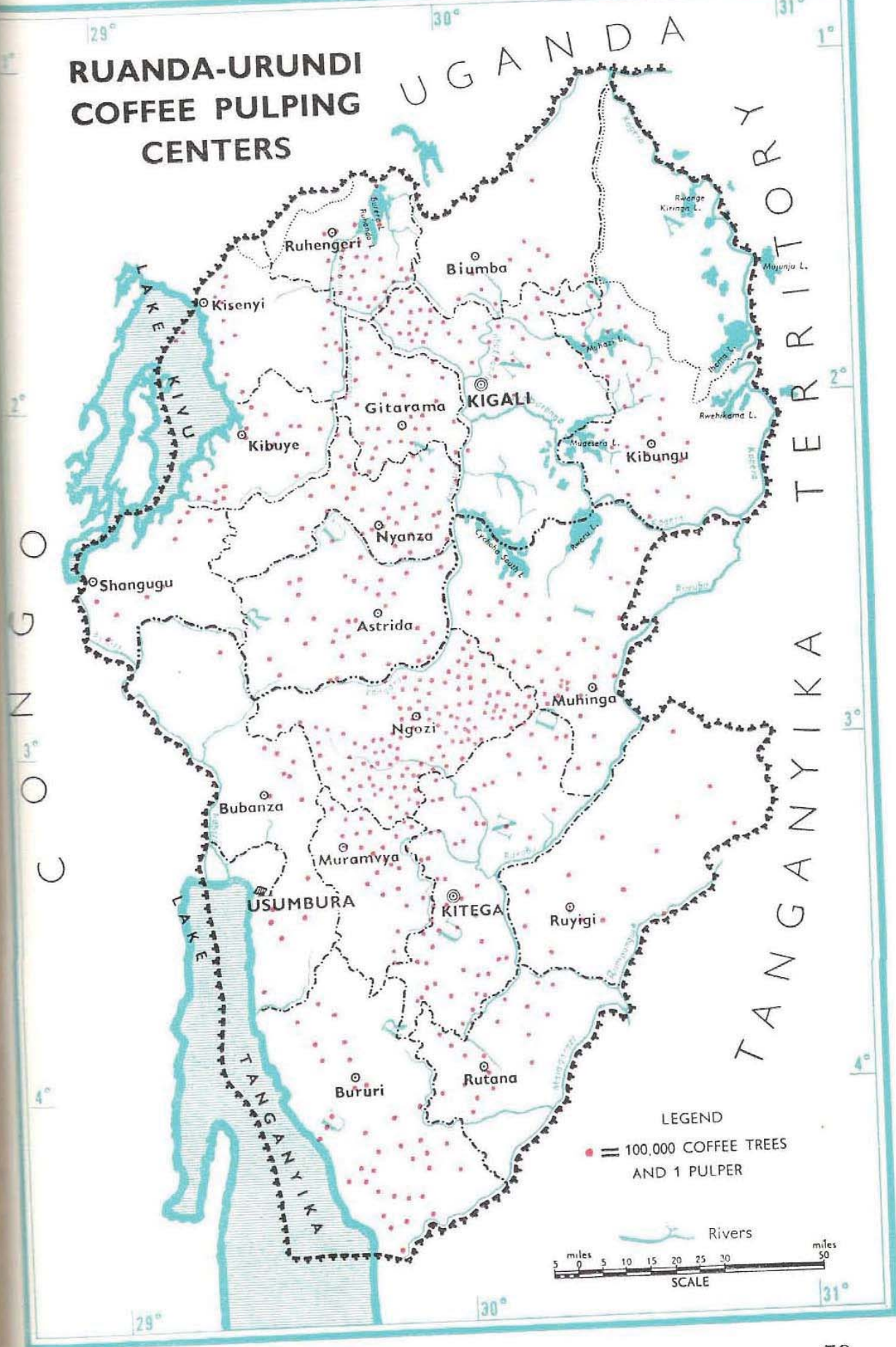
240. — The "**Association des Classes Moyennes Africaines du Ruanda-Urundi**" was founded in Usumbura following the short stay of the president of the "Association des Classes Moyennes Africaines du Congo" in January 1958.

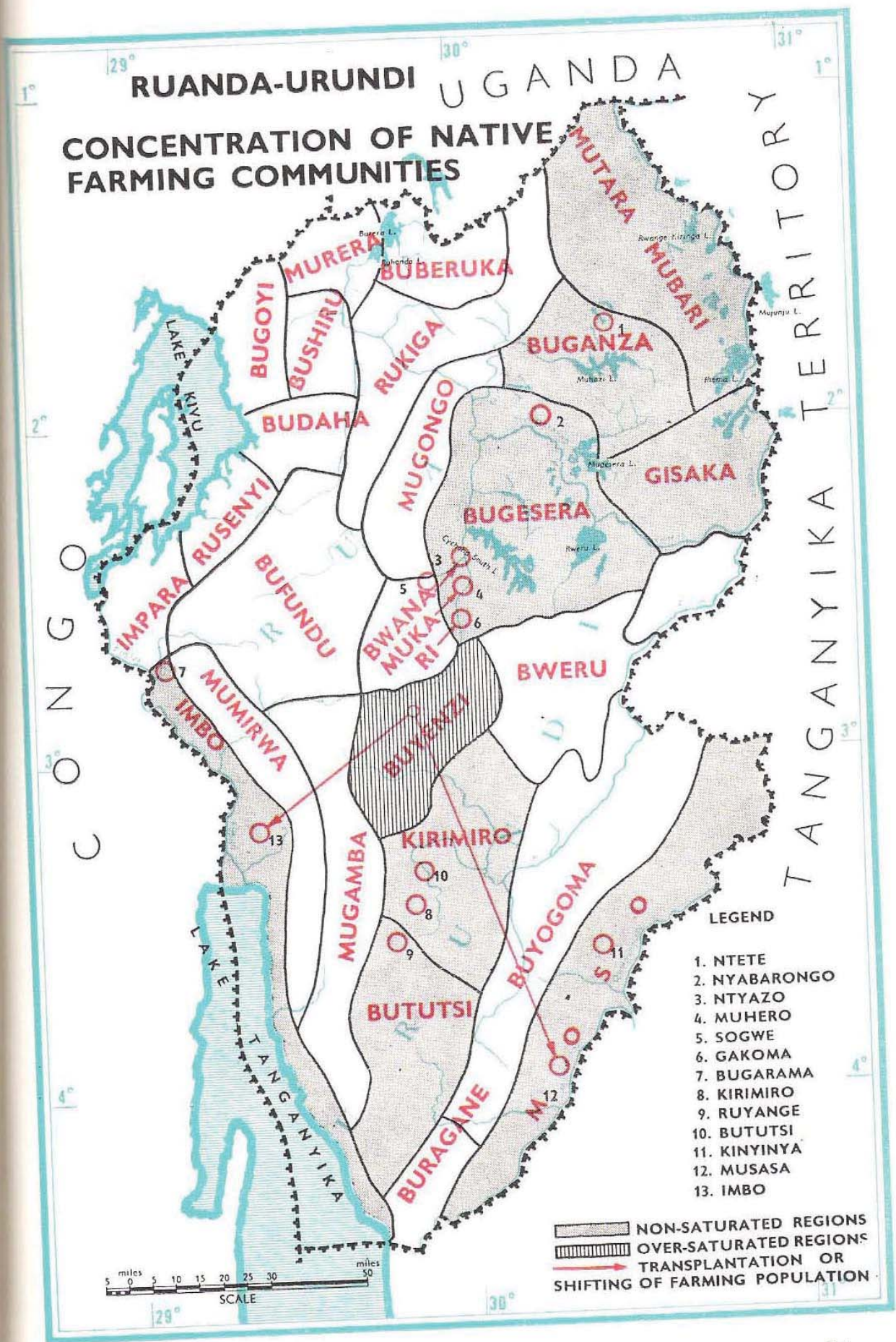
241. — The "**Société de Crédit au Colonat et à l'Industrie**" was founded in order to stimulate, by granting long and middle term credit, the creation, improvement, transformation and activity of agricultural, mining, handicraft, commercial and professional companies and establishments, either small or middle-sized, made up of individuals or legally founded as an "association de personnes". Twenty loans, totaling 12,203,000 francs, were advanced in 1958.

NATURAL REGIONS



RUANDA-URUNDI COFFEE PULPING CENTERS





RUANDA-URUNDI INEAC STATIONS LOCAL ADAPTATION STATIONS AND DIFFUSION CENTERS

LEGEND

INEAC STATIONS

1. RUBONA
2. KISOZI
3. MUSASA
4. LUBARIKA (C-B)
5. RWERERE
6. RUVYIRONZA
7. NYAMIYAGA

L.A.S.

1. RUHUNDE
2. RUBUNGU
3. GAHORORO
4. GISOVU
5. MATA
6. KARUSI
7. MPARAMBO
8. NYAKARARO
9. MUBONE
10. GASAKA

D.C.

1. KABONA
2. MUTAHO
3. BUMBOGO
4. KITEGA
5. BURURI
6. MUNANIRA



CONGO

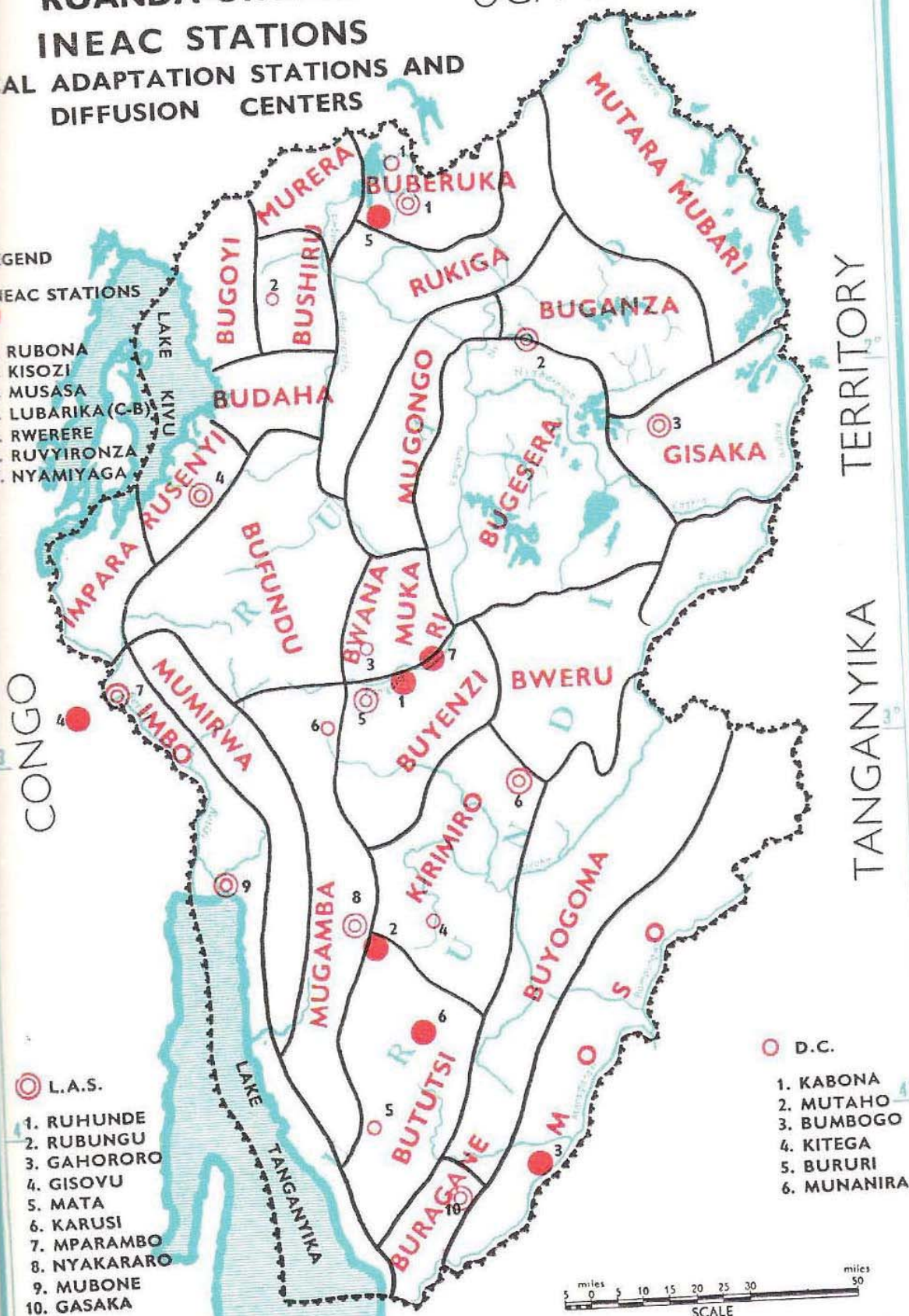
LAKE KIVU

LAKE TANGANYIKA

UGANDA

TERRITORY

TANGANYIKA



RUANDA-URUNDI UGANDA VETERINARY SERVICE

